JISC Framework on Monitoring and Evaluating User Behaviour in information seeking and use of IT and Information Services in UK Higher Education

JUBILEE

JISC User Behaviour in Information seeking: Longitudinal Evaluation of Electronic information services

funded by the
JISC Committee on Awareness, Liaison and Training

Fifth Annual Report

FINAL REPORT

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EXECUTIVE SUMMARY

JUBILEE 1999-2004

OVERVIEW

JISC established its Monitoring and Evaluating User Behaviour Framework (MEUB) in 1999, funded through the JISC Committee on Awareness, Liaison and Training (JCALT). JUBILEE (JISC User Behaviour in Information seeking: Longitudinal Evaluation of Electronic information services) has been one of the Framework's two large-scale projects, and has been carried out between 1999-2004 at the Information Management Research Institute (IMRI) at Northumbria University. Its sister project, JUSTEIS (JISC Usage Surveys: Trends in Electronic Information Services), has been located at the University of Wales, Aberystwyth.

Both JUBILEE and JUSTEIS have been about understanding information behaviour in relation to electronic information services (EIS), and have provided JISC with a contextualised picture of where their services sit. JUBILEE emphasises longitudinal profiling and discipline-based data, and has sought to highlight changes and variations in information behaviour – between disciplines, between users, and between institutions. JUBILEE has collected evidence of all types, to give an holistic picture within an evaluative framework. In its five years, JUBILEE has closed the evidence – impact assessment – benchmarking circle in institutions, in relation to the development of EIS.

JUBILEE's contribution to the sector can be seen in its:

- Longitudinal monitoring over five years
- The development of its evidence based JUBILEE Toolkit which is being used to help bridge the research/practice gap in institutions and is supporting institutions in developing their own practice
- Large scale dataset collected, including more than 3,500 staff and student questionnaires, and around 700 individual staff members and students participating in interviews
- The value added amounts of data collected from the Further Education (FE) sector, including almost 1,700 student questionnaires

Outputs from JUBILEE are of varying length, style and content, and include:

- Baseline reports documenting annual project activity – available on the project website at http://www.jubileetoolkit.org
- The JUBILEE Toolkit, with a web enabled prototype accessible through the website
- A suite of fieldwork tools – questionnaires, Toolkit outline as used in longitudinal re-visits to institutions, a large data archive which could be re-purposed for wider use
- Conference papers, journal articles and book chapters, all recorded on the website

JUBILEE project activity broadened from "just" HE to include establishing a baseline in, firstly FE, and, in cycle 5, in the new JISC audiences of Adult and Community Learning, Modern Apprenticeships, HE in FE. Research methods have been deliberately wide ranging in order to help ensure the robustness and validity of the data collected. Fieldwork was undertaken using quantitative and qualitative methods – questionnaires, interviews (face to face, telephone and electronic), focus groups, foresight and trend spotting obtained through a modified Delphi study with Round Table of national experts from across the sector. The approach to data collection and interpretation has been deliberately holistic, to provide breadth and depth to the longitudinal picture which has emerged.

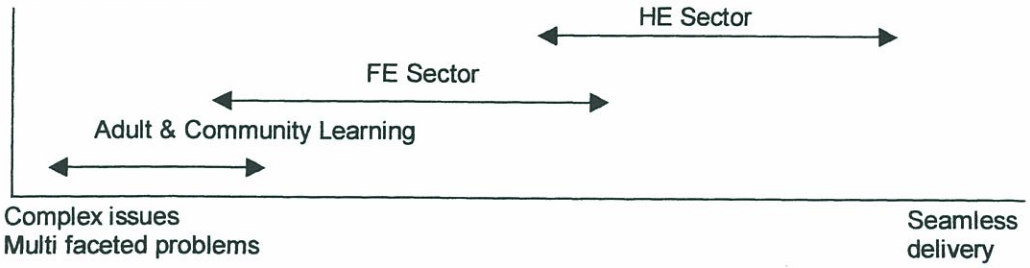
The JUBILEE Toolkit is the prime resource which has been used both as a research tool whilst conducting fieldwork, and as a benchmarking tool for use by individuals and institutions. It is themed and staged to underpin improvement in practice for institutions and individuals. It is also a repository consisting of the project's qualitative evidence and is searchable by

discipline and Toolkit theme. It is designed to support self-diagnosis by institutions and individuals on their stage of development of EIS use, and to offer support in their improvement, based on the good practice of others as identified in the four completed cycles of fieldwork to date. The design and layout of the Toolkit has developed throughout the project, informed through its use in fieldwork and through feedback obtained from dissemination sessions.

KEY MESSAGES

Evidence from the HE longitudinal studies, FE, HE impact studies and expert opinion from the Round Table all point towards a development continuum beginning with complex issues and multi-faceted problems which need to be overcome in order to achieve seamless service delivery for users. Movement along this continuum is incremental and although individual institutions can make huge steps towards seamless delivery, there is evidence to suggest that to date progression has been largely due to trial and error over time. The current picture is one of HE moving ever closer to seamless delivery whilst FE appears to be moving steadily in that direction, but continues to face many problems. Adult and Community Learning also faces multi faceted problems which are exacerbated by the differing needs and expectations of students and staff in this area.

EIS development



The key messages from JUBILEE have been grouped to match the framework of the JUBILEE Toolkit. These messages have emerged over five years from the variety of sources and research methods already mentioned. The two in-depth impact studies undertaken as part of cycle 5 have provided confirmation of these messages at a local level.

USER BEHAVIOUR

Individual preferences and habits remain the single greatest enabler and/or barrier to the take-up of EIS; use has increased from 40% to nearly 80% since 1999 by students in HE; this is related to the ease of access; most students do not evaluate the information they retrieve electronically. Development of a generic Information Skills framework would provide a common baseline but this needs to be adapted at a local level. *'You've got some students who know how to use it really well but other students who have got fairly basic knowledge of it'* (Law academic). Foundation Degree students generally felt they were *"not at all"* confident when using computers, and that electronic journals were *"above my head"* – (Foundation Degree student).

ACCESS

Licensing and authentication needs to become streamlined, publishers and subscription agents will have a role in this development. Although this is an access issue considerable frustration was evident concerning use of Athens and a need to develop a more systematic approach to licensing consistent between subscription agents. This also created problems with integration. Location of physical access should cease to be an issue ensuring a single entry point to all resources; institution and library management must take a strategic approach to EIS provision; communication between all stakeholders needs to be improved. Licensing and authentication needs to become streamlined, publishers and subscription agents will have a role in this development. Integration of EIS through VLEs would provide users with a single entry point and a common interface. Students need direction and focus during each session and the goal has to be evident from the outset. *'Well over fifty per cent of students*

have their own computer and, increasingly, they're coming to university with laptops.' (Library staff)

TRAINING

Information skill and IT awareness levels remain disparate throughout the academic community; EIS training is effective for students when fully integrated into courses and curricula; seamless support and guidance is essential; academic staff need to be included in this training. Training needs to provide students with a set of specific questions to work through to ensure a '*hands-on*' session achieves maximum success. Many students felt completed overwhelmed during their induction session and have subsequently not used them. There is too much going on and until students see the practical significance of the training it means very little to them. *'We keep trying…but until it's [training] actually a compulsory part of taught programmes, I think we're always going to struggle'* (Library staff).

INTEGRATION

Academic staff remain the single greatest influence in student choice of appropriate resource; assessment of information skills is essential and needs to be recognised as an implicit part of student learning but made explicit in programme assessment. Training needs to be closely tied into the needs of the individual group of students rather than using generic modules which don't account for a variety of skill levels or subject specific requirements. '*The times that the lecturers have said, this is a session for this assignment, or for your dissertation, it means more to the student - it's more effective…* '(Library staff) There was also evidence of a lack of understanding amongst academic staff as to the nature and purpose of 'Athens' and what it actually provided. Occasionally FE academics will approach librarians for a new service – however *'if you look at the list of electronic resources which we have on the Intranet, the majority of those have been selected by ourselves'* – (FE librarian).

LIAISON

A systematic, 'joined-up' approach to EIS provision is essential and must be led by library staff; good practice to be shared between HE, FE colleges and schools; EIS providers need to be included in this chain. Robust infrastructures need to be developed within individual institutions and across sectors. There is evidence in FE of successful liaison being established between the library, academic staff and the ILT unit within the college in trying to develop materials for the emerging VLE (Blackboard), but this has not without it's difficulties in getting all parties together (FE librarian).

SUMMARY

JUBILEE demonstrates the disparity of EIS delivery across the sector, evidence gathered shows that many HE institutions can offers examples of best practice that needs to be shared. Individual HE and FE institutions are struggling with very similar problems as they move towards seamless delivery of EIS. During the various rounds of the modified Delphi study it became very apparent that evidence gathered throughout the five cycles of the JUBILEE project had a significant part to play in the development of EIS. The Round Table concluded that the JUBILEE Toolkit provided an ideal framework to offer service providers with the benchmarking and measurement criteria needed to monitor and develop EIS in the form of an Advisory Service offering evidence based advise and support.

List of Tables and Figures in JUBILEE Cycle 5 Final Report

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1. INTRODUCTION

1.1. COVERAGE OF REPORT

The Fifth Annual Report of JUBILEE describes work undertaken in cycle 5 of the project, covering the period August 2003 to July 2004. It reports on the fieldwork undertaken during the cycle both in higher education (HE) and further education (FE), and summarises the development of JUBILEE over its five cycles. Cycle 5 has seen the addition of two new baseline HE sites and three FE sites, and a particular emphasis has also been placed on expanding the longitudinal dimension of the research, adding to the evolving picture of EIS user behaviour documented in previous JUBILEE reports. In HE, four case studies have been revisited to monitor on-going development, two of which were first studied in cycle 3 (focusing on the law discipline), and two that JUBILEE has now investigated over the lifetime of the project (examining the business subject area of in cycles 1, 3 and 5). In FE a survey was sent to all North East FE colleges to add to the large extant dataset of staff, librarian and student opinion collected from cycle 3 onwards to enable trend spotting. Furthermore, in addition to the longitudinal monitoring activity two one-off, in-depth impact studies were undertaken to "drill down" topics and trends identified as being potentially significant for the JISC as providers of EIS.

Strand	Activity	Data collection
Higher Education	4 institution re-visits from cycles 1 and 3 (Business and Law). In–depth baseline fieldwork in 2 institutions (Target disciplines: Information Technology (IT)/Computing; Business; Sociology and/or Psychology). 2 impact studies	44 interviews with academic staff & library/information services staff; 157 questionnaires from students.
Further Education	In–depth fieldwork in 3 institutions, one serving as a cycle 5 pilot for re-developed FE methodology; (Target disciplines Biology; Business; English; Foundation Degree: Early Years; Modern Apprenticeship: Catering and Hospitality)	32 interviews with academic staff & library/information services staff; 27 questionnaires from LIS staff & academics; 9 student focus groups 266 student questionnaires
	Survey of North East, Yorkshire and Cumbrian further education institutions (Target disciplines Biology; Business; English; Foundation Degree; Modern Apprenticeship)	743 surveys returned in total from library, academic and students (includes case study responses).
Wider JISC audience	Round Table study	

Table 1: Overview of cycle 5 fieldwork

Findings from all strands of the project are documented, describing methodological aspects of the JUBILEE project, focusing both on what has worked well and what has been less successful.

In addition the report demonstrates JUBILEE's substantial activity in terms of outputs and dissemination activity throughout the project's lifespan to date, with particular emphasis on cycle 5. A review has been undertaken of the totality of JUBILEE's data structures and datasets resultant of five years of research activity. The success of the Round Table set up in this cycle to discuss strategic, high level issues of EIS provision and use emerging from the research is also highlighted, alongside a description of the complete redevelopment and re-positioning of the JUBILEE Toolkit and the project's online presence.

1.2 PROJECT PERSONNEL

The project team for cycle 5 has consisted of:

- Dr. Linda Banwell, Project Director (0.5);
- Dr Ali Pickard Project Manager (0.5);
- Dr Deborah Goodall, Project Manager (0.5 to February 2004);
- Graham Coulson, Project Officer/ Project Manager (0.5 March-July 2004);
- Gayle Haswell, Project Officer;
- Simon Gordon, Project Officer;
- Susan Heaford, Project Officer
- Anne Middleton, Project Officer (0.5 March-July 2004)
- Julia Banwell, Research Assistant (casual contract);
- Becky Osselton, Web Developer (casual hours).

The team meets regularly to review progress, to discuss more substantive issues, and to plan future activity.

1.3 JUBILEE PROJECT OBJECTIVES: PROGRESS IN CYCLE 5

As stated in the original research proposal to the JISC, the project aim was to provide a *qualitative longitudinal monitoring of EIS use.* The project objectives are given below. The project was designed to fully realise these objectives by the end of cycle 3, the final cycle of the project as initially conceived. Year 1 was the baseline cycle; year 2 built on it, and added the dimension of work in FE, and cycle 3 continued on both of these dimensions, again adding additional work in both FE (action research) and HE (cycle 1 re-visits). Funding for two additional JUBILEE cycles (4 and 5) was subsequently approved. In this cycle progress is charted against the initial JUBILEE objectives, as indicated below:

- **Objective 1:** to contextualise user interaction with EIS, where EIS will be included as part of an holistic view of user information seeking behaviour, thereby illuminating both use and non-use of EIS.

  The context for the whole project had been established at the outset through a wide-ranging Literature Review, extended to include FE and continued in cycle 5. Detailed fieldwork has been undertaken over cycles 1-5 with 26 HE sites, supplemented by 30 FE sites and focused on three/four disciplines per cycle. It has consisted of activity designed at the broadest level to elicit the information behaviour context of the institution and the individual staff and students within it. Detailed data on use and non-use of EIS were then obtained through on-site interviewing and questionnaires. In addition, in cycle 4 small-scale action research projects were conducted at 6 FE sites and two impact studies carried out in HE in cycle 5.

- **Objective 2:** to use longitudinal tracking of users to determine success criteria for information seeking from the users' points of view.

  A baseline was established in Cycle 1 for the derivation of user-based success criteria. This was tested and extended in cycle 2 in HE. The longitudinal aspects of the project have begun to be illuminated in cycles 3 and 4 of the project, with this revisit work emphasised and extended in cycle 5; repeat visits have been made to 3 cycle 1 HE institutions (2 original cycle 1 sites visited for the third time in cycle 5), 3 cycle 2 HE institutions and 2 cycle 3 sites. Continuation of the ongoing surveying of both HE and FE in cycle 5 has offered scope for longitudinal comparison of EIS user behaviour in both sectors across cycles. The methodology for the project has been further developed, tested and refined over the course of the last three annual research cycles (3, 4 and 5),

problem areas documented and solutions suggested for use in the subsequent cycles of the project.

- **Objective 3:** to incorporate success criteria to feed into an Action Plan for HE managers.

  Interpretation of data obtained in cycle 1 had permitted exploratory development of monitoring and evaluation matrices as the basis for the eventual Action Plan for HE managers. This aspect of the project was further developed in cycle 2, with a more extensive knowledge base for the project permitting further characterisation of both good and poor practice in respect of the themes identified in cycle 1. Further forms of representing the data were also developed in cycle 3, with the development of a prototype web-based toolkit. The toolkit was tested, developed and refined during cycle 4. In the latter stages of cycle 4 and throughout cycle 5 JUBILEE has, through various fora, solicited feedback and evaluation about the Toolkit from users and potential users. This feedback has informed a complete redevelopment of the online JUBILEE toolkit, which has constituted a major part of cycle 5 activity. Furthermore given that the toolkit was found to be too hidden from users at its location on Northumbria University's server, in cycle five to increase visibility and accessibility JUBILEE's website and the Toolkit has been moved to its own dedicated web space http://www.jubileetoolkit.org/

- **Objective 4:** to facilitate the achievement of the optimum position for an HEI where service providers' expectations of service use meet the reality (as identified by the users) of service use.

  In addition to the JUBILEE Toolkit which has been developed in part to achieve this objective, individual case study site reports have been provided to participants. Cycle 2 fieldwork resulted in the production of an additional 10 detailed case study reports (6 in HE and 4 in FE), supplementing the 6 already produced in cycle 1. Cycle 3 has seen the addition of a further 11 detailed case study reports (6 in HE, 5 in FE) and 10 briefer, snapshot case study reports in FE, plus 3 action research reports in FE. In cycle 4 another major contribution was made with the collation of 10 detailed case study reports (5 in HE, 4 in FE), 5 snapshot sites in FE, 3 action research sites in FE plus a 3 month international strand. In cycle 5, 4 in depth revisit reports and 2 baseline case studies have been compiled for participating HE sites and a case study report provided to the 3 in depth FE sites. They cover all aspects of fieldwork at the sites. The reports are supplied to inform sites of their current situation and to provide a baseline for subsequent tailoring by site managers of JUBILEE project findings and recommendations.

As a result of ongoing communication and discussion between JUBILEE and the JISC in cycle 5, the priority attached to different strands of the project changed over the course of the year. In summary, the overall objectives of JUBILEE cycle 5 were to:

- Consolidate the evidence and learning from cycles 1-4, with particular emphasis on the continuing collection of objective baseline, qualitative data, and development of the longitudinal work;
- Continue the discipline based monitoring and evaluation activity and extend it through pilot work with the new target JISC audiences of Modern Apprenticeships and HE in FE;
- Ensure that findings from the Framework are disseminated to the widest possible market audience through dissemination activity;
- Undertake a complete re-design of the JUBILEE toolkit and online presence following feedback and evaluation from JUBILEE stakeholders across HE and FE, to allow easier and more interactive use;
- Review and manage the large amount of data collected by JUBILEE over five cycles and ensure records management procedures are in place to allow potential for future data mining;
- Be a transitional cycle while the MEUB framework as presently conceived evolves into a new and sustainable approach and product with a more service oriented ethos which will respond to the changing needs of the broadening JISC community and to the recommendations of the review of JISC evaluation activities.

2. OUTCOMES AND OUTPUTS: JUBILEE CYCLES 1 - 5

2.1 BENEFITS TO PARTICIPANTS

Throughout each of its cycles JUBILEE has received feedback from institutions and individuals participating in JUBILEE demonstrating the value and profile of the project. Library managers and academic staff are looking for direction in the development of EIS, particularly in positioning services and learning modules within virtual learning environments:

- JUBILEE has been unique in terms of methods used and longitudinal study, and for its evidence based Toolkit;
- There has been an holistic approach covering a wide range of themes surrounding the use of electronic resources;
- It has been noted by JCALT members that, from cycle 4, a longitudinal view of EIS provision and use in institutions has begun to emerge, highlighting change and development, showing up discipline differences in user behaviour, and good practice. Such findings have being disseminated through workshops, conferences and journal articles;
- JUBILEE has been able to develop a wide network of individuals, many of whom have been willing to participate in a number of cycles of the project and many have expressed an interest in continuing their association with the project;
- Evidence based information from peer institutions is sought across the sector for benchmarking purposes, and JUBILEE is bridging the gap between research and practice;
- JUBILEE has played a key advocacy role, raising awareness of the JISC MEUB Framework through the project;
- JUBILEE has striven to forge working partnerships with other organisations and bodies involved in relevant or comparable activities. In cycle 5 alone this has been varied:
    - Communication has been maintained with the Evalued project based at the University of Central England which is investigating EIS evaluation procedures;
    - Northumbria University has been a fieldwork site for the LIRG/SCONUL impact study, which is a small-scale investigation of the impact on learners of various aspects of library service. The JUBILEE team has participated in the study and has used its findings to enrich its own impact data;
    - A small satellite project to JUBILEE was undertaken in February and March 2004 under the direction of the team. The team analysed and interpreted data on behalf of the JISC Monitoring Unit (MU) from one of their surveys undertaken for JCN. This joint working arrangement enriched JUBILEE's understanding of the issues of providing the technical infrastructure to underpin EIS provision in FE and HE institutions, and further helped to foster collaboration and partnership across JISC funded organisations;
- In the FE sector JUBILEE has facilitated and promoted effective liaison between academic and library staff at institutions;
- There is evidence of participating institutions using JUBILEE reports to present arguments to senior management meetings and to feed into development plans;
- Action research findings have been of high relevance to practitioners because the focus of activity is selected partly by the institution;

- Action research activities afforded the opportunity for participating institutions to provide time for staff to learn how to use specific electronic resources and plan use of these resources into particular teaching schemes. As such this facilitated opportunities within the college for staff and student training not affordable without the JUBILEE research;

- The international strand in cycle 4 provided JISC with useful comparative insights: *'Australian educational sectors have been early adopters of EIS, though we have lacked the government drivers of a body like JISC' (Australian respondent)*

- Case study sites continue to benefit from participation in JUBILEE. A number have reported feeding the outcomes back into strategies, curriculum reviews and departmental plans. In some cases new collaborations within institutions have been initiated e.g. between LIS staff and ILT Champions;

- The JUBILEE Toolkit is acting as a mechanism for the sharing of good practice and a complete redevelopment of The Toolkit in cycle 5 has expanded on this role, offering the potential for further development. It is designed to support self-diagnosis by institutions and individuals on their stage of development of EIS use, and to offer support in their improvement, based on the good practice of others as identified in the five completed cycles of fieldwork to date;

- JUBILEE has continued to strive to incorporate findings into JISC agendas and planning, both proactive and responsive in its liaison with JISC. Targeted briefing papers have been provided to JISC Committees and feedback elicited from committees' responses into JUBILEE;

- There has continued to be general interest in the work of JUBILEE and a wide range of dissemination events and publications have been produced.

2.2 PARTICIPANT FEEDBACK AND EVALUATION

A keystone principle of the JUBILEE research has been that it should be both proactive in eliciting feedback from participating sites, and responsive to that feedback in future project development activities. Over the five cycles of JUBILEE fieldwork case study reports have been distributed to each of the participating institutions, providing evidence of the findings particular to their organisation. These reports are confidential and have been accompanied by an evaluation sheet in order to collect feedback on the contents of the report and determine the usefulness of the report to the institution. These reports are shared by a variety of staff within and outwith the library service including: senior management; line managers of staff involved with the project; Director of Student and Learning Services; full teams of those involved; ILT Steering Group; Head of Department; and subject librarians.

The case study reports have been found to be of great value to participating institutions and are used for a variety of purposes within the institution, the following illustrating some representative comments:

'In self-assessment report to promote other e-learning/blended learning across the college';

'For awareness raising and the progress improvements in our organisations approach to EIS';

'Improve training for student in Internet searching/ evaluation';

'To reflect on EIS plans for next year in Biology';

'Will inform faculty action planning and objective setting; will inform forthcoming QAA; will feed into e-resources strategy; has been used in appraisal of history subject librarian'

'Review and pursue ongoing communications with the academic staff; encourage integrations of information skills as part of the curriculum; clarify and improve induction process especially with the academics';

'To work on addressing weaknesses in our own strategies of promotion and awareness within the FE community'.

2.3 KEY MESSAGES FROM JUBILEE FINDINGS

JUBILEE findings have highlighted a number of key messages and issues. These messages are aimed at the project stakeholders including the JISC committees, participants in the project and the general community. The following messages have been grouped under the five JUBILEE EIS themes and are derived directly from the project fieldwork:

THEME 1: USER BEHAVIOUR

- The greatest barrier to take up and use of EIS is the individual, rather than other contributing factors such as the resource itself or the institution. Despite strong feeling from academics and librarians that across the board there exists greater awareness of electronic resources on the part of lecturers and students than ever before, such awareness remained inconsistent across disciplines. Use and attitudes towards EIS among academic staff and students varied greatly, take-up apparently still very much down to the individual.

- Students across FE and HE predominantly use search engines, particularly Google, to find information. Other content services are judged by the search engine standard. The growing popularity of electronic journals is related to the ease of access to full-text information;

- Higher education student respondents' confidence in using electronic resources has increased, although the picture is more mixed in FE;

- VLEs (Virtual Learning Environments) appear popular with both FE and HE students, who enjoy interactive learning features as well as increased seamlessness offered to course information and EIS. Development of VLE technology can promote increased use of more specialist electronic information services;

- The development of VLEs and other new innovative means of delivering teaching and learning experience has not always been matched by a corresponding increase in IT skills on the part of students and academic staff;

- The majority of students, regardless of discipline, do not apply a great deal of evaluation or critically assess the information they retrieve electronically. Cases of plagiarism have also been noted at a number of case study sites;

- There is evidenced in cycle 5 a continued need to overcome the entrenched attitudes of certain academic staff in relation to the use of EIS, through continued liaison and promotional activities of the library and the assuaging of fears regarding the benefits of investing time in learning new skills;

- Institutions should capitalise on the enthusiasm of academics who regard EIS highly as information resources, by either formally or informally encouraging enthusiasts to 'champion' EIS integration to other colleagues and peers;

- Students need to be encouraged to recognise the potential of EIS use in the furtherance of their studies and future careers by both academic and library staff.

THEME 2: INTEGRATION

- As academic staff recommendation is integral to ensuring many students perceive EIS as relevant or necessary to the furtherance of their learning or research, it is vital that all staff have an awareness of, and belief in, the EIS useful to their subject. Across all cycles of JUBILEE, student awareness and use of EIS appears to be related to academics' own attitudes towards electronic information. Individual personalities, preferences and prejudices of lecturers and tutors is still a major influence on student use;

- Many academics occupy an encouraging and gate-keeping role, recommending useful sources of information and referring to such materials and sites during lectures and seminars;

- One of the most astute and successful means by which to effect student use of EIS appears to be through the integration and embedding of any LIS or academic information skills training into assessment – a prime motivator of many students;

- While over the past two years at many HE sites much has been done to improve institutional involvement in e-learning, nonetheless increased strategic direction and a unified policy for the embedding of EIS and IT into teaching and learning is seen as a desired aim;

- Both academic and library staff should strive to develop/maintain an active role in the use and integration of EIS into new platforms for the delivery of teaching and learning (e.g. VLEs);

- A common complaint during cycles of JUBILEE fieldwork regarded the development of both ICT and EIS, stating that there has been a lack of clear strategic direction from central institutional management. While such concerns are still being raised in cycle 5, at some HE institutions however greater strategic priority and funds are being directed to the development of new virtual teaching and learning platforms, and the embedding of EIS and IT within courses and curricula. There appears to have been a heightened recognition of the need to systematically invest in IT infrastructure to support new developments, resulting in improved access for users, not only on campus but also in terms of better facilitated remote access through the use of effective authentication systems.

- Many institutions acknowledge that one reason to adopt new ways of working and embed EIS is to meet the demands and expectations of students. The higher education marketplace and student demand and expectation is driving, or necessitating, change to existing teaching practice. Further impetus for the integration of EIS into online modes of delivery is also driven by wider cultural shifts in university education, not least changing patterns of student study and attendance.

THEME 3: TRAINING

- In the view of academics at some HE sites, students have little need for any IT and EIS literacy training, believing most scholars were enrolling on courses already in possession of many IT skills. Other academics were less convinced. Research suggests that incoming HE students are in possession of an extremely varied range of EIS proficiency levels, and that prior awareness and involvement with EIS cannot be assumed.

- Central direction is needed from universities, clearly delineating specific roles and responsibilities of different departments in relation to the development of students' IT and information literacy, particularly critical evaluative skills;

- Significance must be attached to assessing EIS training needs of academic staff, ensuring that tutors' needs are supported, and any information passed on to students via their teaching is reliable;

- There is a need to address potential space and staffing resource issues that may result from any expansion of library EIS user education;

- User education and training is provided in many different forms and adopts different styles depending on relationships, needs and practicalities specific to different disciplines and institutions. EIS training does however appear to be consistently effective for students when undertaken in collaboration between LIS and academic staff, being fully integrated into courses and curricula;

- Low student attendance at skills development sessions must continue to be tackled, possibly through greater integration of any such education into courses and curricula;

- It is seen by research respondents as important to begin or continue exploring means of unlocking the potential and usefulness of web-based training packages, as a seamless way of offering support and guidance alongside teaching and learning materials.

THEME 4: LIAISON

- Library staff must strive to encourage a more systematic, 'joined-up' approach to EIS provision issues through communication and collaboration with departmental representatives, presence on academic and management committees and informal contact with academic staff;

- Library staff must ensure that a strong lead is given in EIS provision, awareness and use, and that issues regarding the budgeting of electronic information be addressed;

- Strategies for effective communication between librarians, academic staff and students via the VLE need to be discussed by all stakeholders and then implemented;

- Opportunities exist to foster much greater cooperation between higher education, schools and FE colleges to share good practice in improving EIS awareness and proficiencies, in order to promote effective skills development throughout students' educational careers.

THEME 5: ACCESS

- EIS has engendered a number of medium-specific challenges for potential users, including authentication issues, availability and access to necessary hardware, and the need for relevant skills;

- The need to provide access to EIS of itself necessitates a sustained focusing of HE library management thinking on the need for comprehensive access and information strategies;

- Encouragement of seamless access to electronic resources is necessary, by moving towards a single login authentication system particularly in FE, where multiple passwords are seen as an immediate barrier to EIS use;

- Over the years of study JUBILEE has observed a shift towards remote use of EIS among HE users, which has increasingly been facilitated by libraries and service providers. Concerns are however still raised regarding user support for remote, independent use of sometimes complex EIS;

- Catering for an increasing proportion of part-time students requires that off-campus access to services should appear as easy as on-campus access. Government policies for

widening participation mean that more students may be part-time students, mature learners, remote or distance learners;

- Enabling access to EIS does not alone ensure the effective or efficient use of electronic sources of information;

- Concerns relating to provision of EIS are consistent throughout JUBILEE cycles: resource constraints, publisher pricing models and site licenses, and digital presentation and archiving. Institutions find it difficult to tailor deals and journals to meet their user demand, particularly in the FE sector where the student body is more diverse;

- On the part of both academic and library staff there remains the desire to see EIS occupy a complementary position as additional information resources rather than superseding hard copy material;

- There are gaps in provision of material suitable for the diverse needs of the FE market;

- In many cases EIS suppliers need to have a clearer awareness of academic markets in order to improve the usability of their products;

- There is a need for effective and enhanced dialogue between library, academic staff and providers of electronic services - raising awareness of the particular needs of the higher education marketplace, including effective and comparable monitoring statistics for EIS products.

JUBILEE has sought to communicate these key messages and strategies for addressing these issues through its extensive dissemination activity.

2.4. DISSEMINATION ACTIVITY

2.4.1. CYCLE 5 PUBLICATION AND PROMOTION

From its inception JUBILEE has acknowledged that its findings need to be disseminated to the widest possible audience in order for the project to remain as close as possible to its market. Given the considerable body of research evidence and findings amassed by the beginning of cycle 5, JUBILEE designated a strand of research cycle activity dedicated to dissemination. The stated objectives of this dissemination strand were to:

- Provide timely and rapid dissemination of JUBILEE findings, publications and indication of trends and emergent agenda items emerging as a result of Round Table activity and wider horizon scanning;
- Enhance the value for money aspects of JUBILEE;
- Provide the potential for development as a Framework electronic presence;
- Maximise the use of research evidence already in the public domain in line with established practices of data archiving and dissemination. It is intended that data should be made available in line with the good practice of established research data archives intended for the sharing and exploitation of research data;
- Provide an accessible electronic presence for JUBILEE, building on its existing web presence on the IMRI site, with the intention of making the JUBILEE findings more publicly available to the wider JISC audience, such as the RSCs and LTSNs;
- Facilitate interactivity in using and developing the JUBILEE Toolkit.

The development of JUBILEE's online Toolkit and web presence are detailed subsequently in a separate section of this report (See section 4), this warranted given the significant enhancements undertaken during cycle 5. In terms of the remaining dissemination strand

objectives, the JUBILEE team has delivered a wide range of dissemination in the past year in order to propagate findings as widely as possible.

The Framework **Round Table** was established comprising members representative of the whole JISC community. This implemented in order to serve a dual function:

- As a foresight panel to inform project activity by identifying trends for future investigation;
- As an advocacy and dissemination mechanism back to the community.

An on-line modified Round Table study was undertaken using a brief questionnaire to establish a baseline, followed by feedback to all and on-line discussion. Design of the initial questionnaire identified both key issues in EIS provision and use and reactions of stakeholders to the emerging Framework. The predictive function of the Round Table method allowed key informants to identify emerging trends and express their opinions on future developments. A successful, well-received face-to-face meeting was held to discuss findings of the initial Round Table questionnaire at Centre Point, London on 9th December 2003. As detailed the Round Table Study section of this report (See Section 5.1), the Round Table has been very effective, with representatives from strategic bodies, management, library and academic staff from both higher and further education having been involved in mapping EIS relationships, issues and priorities, helping to determine what the JISC's stakeholders want from the Framework, confirming the importance of JUBILEE's evaluation activity, and corroborating the key issues and priority areas emergent from the research.

In addition to the development of the Round Table, in cycle 5 JUBILEE continued its policy (evidenced in previous cycles) of publishing and presenting as widely as possible to its target audiences, both nationally and internationally. In cycle 5 this activity was undertaken with an even sharper strategic focus: as can be seen below from the summarised examples of major dissemination each paper and article targeted and addressed different aspects of JUBILEE's wide base of activity and knowledge:

Title:	**Improving outcomes through the use of action research? Evidence from the JUBILEE project.**
Authors:	Graham Coulson, Kathryn Ray and Linda Banwell
Journal/Conference:	Fifth Annual Northumbria International Conference on Performance Measurement in Libraries - Library Measures to fill the void: assessing outcomes
Publication/ presentation date:	Thursday 31st July 2003, Durham, UK (Conference proceedings to be published by Emerald)

Focusing on the action research strand of JUBILEE's cycle 4 research activity, this paper detailed how the research made use of this largely qualitative measure to investigate the potential impacts of library and academic intervention on staff and student use of electronic information services in further education. Through a discussion of the processes employed with two case studies participating in the research project the paper reflected upon JUBILEE's experience of using the qualitative research method, and highlighted:

- Means by which outcomes can be improved through the use of action research;
- The potential benefits of collaboration between research staff and practitioners;
- Evidence of both the strengths and limitations of the use of action research as a methodology, and the extent to which such measurement offers a meaningful tool by which to assess impacts.

Title:	**Using the JUBILEE Toolkit to bridge the research – practice divide**
Authors:	Linda Banwell, Graham Coulson and Alison Pickard
Journal/Conference:	The New Review of Information and Library Research
Publication/ presentation date:	Volume 9, Number 1, December 2003, pp. 97 - 110

This article discussed the use of the JUBILEE Toolkit as a means of bridging the divide between research and practice in the academic context. The central role of the Toolkit to the research is outlined in the respects that it both improves the understanding of information behaviour in relation to EIS in a variety of disciplines and organisational contexts, and functions as an evaluation tool for use by Higher and Further Education managers, facilitating the benchmark of their own institution's development in relation to the adoption of EIS. The ongoing development and use of the JUBILEE Toolkit is described, with examples. It is argued that the Toolkit brings structure and coherence for both researchers and participating practitioners alike.

Title:	**Users and user study methodology: the JUBILEE project**
Authors:	Linda Banwell and Graham Coulson
Journal/Conference:	Information Research.
Publication/ presentation date:	Volume 9 No 2 January 2004 (http://informationr.net/ir/9-2/infres92.html) This paper was first presented as a keynote address from the DigiLib conference 'Toward a user-centred approach to digital libraries' in Espoo, Finland September 8 - 9, 2003. It was one of a small number of papers selected for inclusion in Information Research.

The paper was first given as a keynote presentation at Digilib 2003 in Finland, under conference theme 1: *Users in the digital environment and methodology of user studies.* The paper presents both theoretical aspects and practical examples of JUBILEE. Particular emphasis was placed on the importance of using robust theory and methods as the basis for reputable user studies, especially those undertaken by practitioners. Theory underlying the development of the JUBILEE project and Toolkit was also outlined, followed by demonstration of its practical use and impact during the project's ongoing program of monitoring and evaluation activities. Underlying the paper was the importance to practitioners of the need to understand and adopt a well-founded methodology and sound methods with which to conduct projects, the additional benefits they can derive by so doing, and the pitfalls and dangers of not so doing. JUBILEE was used throughout as the example project to demonstrate the points being made.

Title:	**Enabling the electronic information user in UK further and higher education. Further findings and reflection from the JUBILEE project**
Authors:	Graham Coulson, Susan Heaford, Gayle Haswell, Simon Gordon Linda Banwell, and Kathryn Ray
Journal/Conference:	LIDA (Libraries in the Digital Age) 2004, under Theme 1: Human Behaviour in Digital Libraries: Human Information Behaviour and Competences For Digital Libraries
Publication/ presentation date:	Wed 26th May 2004, Dubrovnik, Croatia. [Proceedings to be published]

The general aim of the annual Libraries in the Digital Age (LIDA) conference is to address the changing and challenging environment for libraries and information systems and services in the digital world, with an emphasis on examining contemporary problems, advances and solutions. In cycle 3 JUBILEE presented a paper at the 2002 LIDA conference outlining a number of the barriers that have been reported by users and potential users of EIS. The cycle 5 paper revisited some of those research findings, considering the extent to which change has occurred in the intervening two years between cycles 3 and 5 as regards the opportunities and enablers presented to people attempting to effectively use EIS. It was noted that at the time research commenced attention largely focused on the individual, on his/her use or otherwise of EIS, and on user needs apropos support and information skills development. This focus reflected the need to address how users were coping with that paradigm shift underway in information provision so comprehensively documented in the literature. By cycle 5, while addressing and assessing user behaviour remained the principle objective of JUBILEE, as the significance and proliferation of EIS in higher education increased similarly the research project evolved, broadening in scope in order to consider and explore the wider factors that govern awareness, perceptions and effective use of EIS.

Title:	**The impact of JUBILEE on institutions**
Authors:	Graham Coulson, Linda Banwell and Gayle Haswell
Journal/Conference:	Prepared for The Evalued Conference. A one-day conference aimed at library, practitioners, researchers and others which forms part of the HEFCE-funded Evalued project which is based at the UCE.
Publication/ presentation date:	Wed 16th June 2004, Birmingham UK. The conference proceedings will be published by Emerald as a special issue of VINE: The Journal of Information and Knowledge Management Systems.

Through a discussion of the processes employed with case studies participating in the research project this paper reflected upon JUBILEE's development of its EIS improvement toolkit, and its experience of integrating the JUBILEE Toolkit into the research process. Evidence of both the strengths and limitations of the use of toolkit themes in research and practice were highlighted, and the potential improvements to EIS provision of such collaboration between practitioners and research staff outlined.

Title:	THE JISC User Behaviour Monitoring and Evaluation Framework
Authors:	Banwell L, K Ray, G. Coulson, C. Urquhart, R. Lonsdale, C. Armstrong, R. Thomas, S. Spink S, A. Yeoman A, R. Fenton and J. Rowley.
Journal/Conference:	Journal of Documentation
Publication/ presentation date:	Volume 60, 3, 2004. pp. 302-320.

A paper authored jointly with JUBILEE's sister project JUSTEIS, this overview described key aspects of the methodology and outcomes of the framework after its first three cycles (1999-2002). Key framework outcomes are outlined as being: a multi-dimensional, cross-sector methodology for the continuing monitoring of user behaviour in respect of EIS and the factors that impact on that behaviour; a profile of user behaviour in respect of EIS over the three annual cycles of the framework; the JUBILEE Toolkit that can be used to benchmark development in the provision and use of EIS in specific disciplines or at specific institutions; a methodology for monitoring, and a profile of the EIS resources available to HE and FE users; and a summary of some of the key issues in their provision. Challenges for the future are suggested, notably the embedding of EIS within curricula and learning experiences.

2.4.2. A RETROSPECTIVE BIBLIOGRAPHY (DISSEMINATION CYCLES 1 – 4)

JUBILEE's substantial activity in terms of outputs and dissemination activity throughout the project's lifespan to date is evidenced in the retrospective below. It should be noted however that in addition to extensive outputs in terms of publishing articles and presenting papers at conferences, JUBILEE findings also have been disseminated via workshops and dissemination days organised under the auspices of the project. In cycle 4 for example these included:

- **JUBILEE FE workshop**

A JUBILEE workshop was held at Northumbria University in October 2002, specifically aimed at the FE sector. Invitations were specifically aimed at individuals participating in the project. While attendance was low the event cemented relationships between the team and the Northern Regional Support Centre and afforded the opportunity of a lively debate focusing on research and practice and the applicability of the JUBILEE Toolkit in the FE sector.

- **A JISC dissemination day**

A JISC dissemination day was held in Birmingham in June 2003, in collaboration with the JUSTEIS team, '*JUSTEIS and JUBILEE Projects – Research into Practice*'. The event was attended by 62 people and held at Aston Villa Football Club. The programme for the day was designed to inform attendees of the Framework for Monitoring and Evaluating User Behaviour and the work of the 2 project teams JUSTEIS and JUBILEE. Central to the day was the need to engage the JISC community not only in the findings of the research to date, but to provide an insight of the practical and operational impact the findings might have at all levels on those in FE and HE institutions. The introduction to the day was made by Bob Powell of JISC and followed by an overview of the framework by Professor Jenny Rowley. Each of the supporting teams introduced their work and took the attendees through workshop activities designed around practical aspects of changes and trends in user behaviour. The JUBILEE team also presented a perspective of participation in the JUBILEE project from both FE and HE through their guest speakers, Philip Payne from Leeds Metropolitan University and Karl Florczak from North Trafford College. Opportunity was given for attendees to use and review the web accessible JUBILEE Toolkit and the JUBILEE online site.

In the following reference list, for ease of reference, publications and papers have been ordered by publication or presentation date rather than research cycle.

JUBILEE DISSEMINATION 2003

- Banwell, L. (2003) Development of electronic information service provision and use in UK Higher and Further Education Institutions through the use of an evaluation toolkit: the JUBILEE project. Paper presented at the Library Research Roundtable event at the Canadian Library Association/ American Library Association joint conference, June 2003, Toronto, Canada

- Banwell. L., Ray. K., Coulson. G, and Proud, D. (2003) *Evaluation, impact and outcomes – the JUBILEE project.* Performance Measurement and Metrics 4 (2), 2003, pp. 79 – 86

- Coulson, G., Ray, K. and Banwell, L. (2003) Improving outcomes through the use of action research? Evidence from the JUBILEE project. Paper presented at 5th Northumbria International Conference on Performance Measurement in Libraries, 28-31 July, 2003, Durham University, United Kingdom [TO BE PUBLISHED]

- Coulson. G, Ray. K, and Banwell, L. (2003) *The need for a converged approach to EIS provision? Evidence from the JUBILEE project.* Library Review 52, (9), 2003, pp. 438 – 443.

- Jackson, M., Banwell, L. and Proud, D. (2003) A transformation in Further Education: technology, the electronic library and the Cinderella sector. Journal of Further and Higher Education, Vol. 27 (2) pp167-174, 2003

- Ray, K., Coulson, G. and Banwell, L. (2003) Challenges and opportunities facing the library profession in developing use of electronic resources in teaching and learning – illustrations from JUBILEE. Paper presented at the 9th International Conference of European University Information Systems, 2-4 July, Amsterdam, The Netherlands.

JUBILEE DISSEMINATION 2002

- Banwell, L. (2002) Replicable methods from JUBILEE for the monitoring and evaluation of EIS use and impact Paper presented at the LIRG (Library and Information Research Group) Study Conference, December 2002, Scarborough, UK

- Banwell, Linda and Gannon-Leary, Pat (2002) Drivers of information behaviour in the electronic age: evidence from the JUBILEE project. Human Aspects of the Information Society, an international collection of papers. Edited by Dr Linda Banwell and Professor Mel Collier, Information Management Research Institute, Northumbria University. June 2002.

- Banwell, Linda, Ray, Kathryn, Coulson, Graham and Proud, Debbie. (2002) Evaluation, impact and outcomes – the JUBILEE project. Northumbria Lite: Measuring Impact and Outcomes. Statistics and Library Theory and Research Workshop, IFLA, Glasgow 22 August 2002.

- Gannon-Leary P, Banwell L, Childs S (2002). Barriers and enablers in access services: Evidence from the JUBILEE Project. Journal of Access Services; 1(1):105-117

- McDowell, Liz, Banwell, Linda and Marples, Gwen. (2002) First catch your student: issues in qualitative evaluation. Performance Measures and Metrics. Volume 3, no. 1, 2002 pp. 20-27.

- Ray, K., Coulson, G. Proud, D. and Banwell, L. (2002) Accessing electronic information in UK further and higher education. Findings from JUBILEE, a JISC funded research

project. Paper presented at the Libraries in the Digital Age Conference, Dubrovnik, Croatia, May 21-26, 2002.

- Ray, K., Proud, D., Coulson, G. and Banwell, L. (2002) Accessing electronic information in UK further education: findings from JUBILEE in FE, a JISC-funded research project. The New Review of Information Networking, Vol. 8 pp 141-150, 2002.

JUBILEE DISSEMINATION 2001

- Banwell, L. and Gannon-Leary, P. (2001) Meaningful measures for individuals' realities: evidence from the JUBILEE project. 4th Northumbria International Conference in Libraries and Information Services, Pittsburgh, 12-16 August, 2001

- Gannon-Leary, P., Banwell, L. and Childs, S. (2001)'Information rich, information poor: some findings from JUBILEE' in Proceedings Ethics ICT and Social Exclusion Conference, 8/9 February, 2001, Bolton Business School.

- Gannon-Leary, P., Banwell, L. and Childs, S. (2001) 'Enhancing ICT skills: the how, who and when - illustrations from the JUBILEE project' Vine, Issue no.122, Supporting learning and teaching, March 2001, p.5-9.

- Gannon-Leary, P. and Banwell., L. (2001) 'EIS in the humanities: irrelevance of future saviour' in Digital Evidence: Selected Papers from Digital Resources for the Humanities 2000. London: Office for Humanities Communication, July 2001.

- Jackson, M. and Banwell, L. (2001) 'JUBILEE in FE', COFHE Bulletin Spring 2001.

JUBILEE DISSEMINATION 1999- 2000

- Banwell, L. and Gannon-Leary, P. (1999) A review of the literature for the JUBILEE project. New Review of Academic Librarianship, Vol. 5, 1999, pp. 81-114.

- Banwell, L. (2000) 'Evaluating information services'. In: Managing knowledge in health services, edited by Andrew Booth and Graham Walton. Library Association Publishing, 2000 p.173-181

- Banwell, L. and Gannon-Leary, P. (2000) EIS in the Humanities: irrelevance or future saviour? presented at Digital Resources for the Humanities 10 – 13 September 2000, University of Sheffield.

- Banwell, L. and Gannon-Leary, P. (2000) JUBILEE: monitoring user information behaviour in the electronic age. OCLC Systems and Services, 16(4), 2000 p189-193.

- Banwell, Linda (2001) Information behaviour in the electronic age. International Yearbook of Library and Information Management, 2001 Library Association, pp. 69-101.

3. REPORT OF RESEARCH ACTIVITY OVER CYCLES

3.1 DATASETS AND DATA STRUCTURES (JUBILEE CYCLES 1-5)

The strengths of JUBILEE's dataset, and its particular 'selling points' reside in:

- The richness and amount of the qualitative data it collects;
- The longitudinal nature of the data collected, which facilitates trend monitoring;
- The discipline focus of user behaviour data, permitting comparisons between disciplines over time;
- The 'embeddedness' of the project's activity, close to institutional practice which promotes the bridging of the gap often seen between theory and practice.

In recognition of these unique advantages of the project, as part of cycle 5 activity a comprehensive process of re-evaluating the large datasets collected was deemed necessary. Following the advice of the May 2003 JCALT meeting, a focus activity in cycle 5 has been the re-purposing of JUBILEE data. A small-scale data mining trial has been undertaken in cycle 5 using a small discipline based data subset. This has highlighted some of the development issues involved and demonstrated the possibilities that a larger scale data warehousing facility could provide, if this were to be based on the joint datasets from both JUBILEE and its sister project JUSTEIS. Further data mining would support and enable more comparative work between HE and FE, allowing improved access to research results and would as a result facilitate knowledge transfer between sectors.

In addition the entirety of JUBILEE's data archive has been reviewed during the course of 2004 to assess the integrity and management of this data stretching back to cycle 1 in 1999. This process has allowed for the coordination of research data, allowing the project to coherently identify and account for the datasets collected. Results of this review include the following:

- All returned questionnaires are stored both in hardcopy and electronically, in SPSS file format, rendering retrospective analysis of quantitative data across cycles both possible and straightforward;

- All individual case study reports are held in both hardcopy and electronic format;

- Annual reports for cycles 1-4 are held in hardcopy, electronically in Word .doc format. In addition all annual reports are available online via the new JUBILEE website (http://jubileetoolkit.org), enabling easy access to JUBILEE findings;

- Sections of the qualitative transcript data are available in NUDIST format. Nevertheless even where this is not available all interview transcripts from cycles 2-5 are held in both hardcopy and electronic format (.txt and .doc);

- The only real problem noted in the course of the review concerned the accessibility of some cycle 1 qualitative transcript data stored electronically. This may be problematic due to changes in IT systems since 1999, and as a result of the decomposition of a small number of 1.44mb floppy disks;

- As a result of the review of data structures, a central repository has now been created, with all hardcopy and electronic data archived together in one physical location to facilitate easier access to research records, should this be necessary in the future.

Another main outcome of the data structure review has been the clear identification of precise details of data collected during each cycle; these are described in the course of the following tables. In summary the large amount of data collected in the course of the five JUBILEE

cycles to date is clearly illustrated in the table below, where it can be seen that the project already has a considerable repository of data, including in the difficult area of information on student use/non-use of EIS:

	Higher Education	Further Education	Action Research	Total
Staff questionnaires	395	105	5	505
Student questionnaires	1318	1681	69	3068
Staff interviews/ focus groups	261	223	32	516
Student email interviews/ focus groups	34	42	89	165

Table 2: Datasets collected, cycles 1-5

Similarly the evolution of activity in JUBILEE cycles 1-5 is mapped below.

	Higher education	Further Education
Cycle 1	6 **in depth** case studies (health, business, english)	
Cycle 2	6 **in depth** case studies (history, sociology, computing)	6 month **pilot** study: 4 **in depth** case studies in the NE (history, sociology, computing)
Cycle 3	6 **in depth** case studies (art & design, geography, law) 3 **re-visit** case studies (health, business)	5 **in depth** case studies in the NE (art & design, geography, law, business) 10 **snap shot** case studies in the NE 3 **action research** case studies in the NE
Cycle 4	6 **in depth** case studies (politics, biology, film studies/ media) 3 **re-visit** case studies (sociology/ history) 1 **action research** case study	4 **in depth** case studies (politics, biology, film studies/ media) 5 **snap shot** case studies 3 **action research** case studies
	One off in-depth study: JUBILEE International	
Cycle 5	2 **in depth** case studies (Information Technology (IT)/Computing; Business; Sociology and/or Psychology) 4 **re-visit** case studies (Business/ Law) 2 **impact** case studies	3 **in depth** case studies (Biology; Business; English; Foundation Degree: Early Years; Modern Apprenticeship: Catering and Hospitality) Survey of North East, Yorkshire and Cumbria FE institutions.
	Round Table study of wider JISC audience to identify EIS issues	

Table 3: Evolution of activity

The following tables illustrate in greater detail the fieldwork activity and data sets collected for each cycle of JUBILEE research:

3.1.1 JUBILEE DATA DETAILS FOR CYCLE 1

HE	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	TOTAL
LIS/IT staff:	14	11	12	10	7	8	62
Questionnaires	2	3	2	1	2		10
Interviews	1	1	1	1	1		5
Focus groups							
Health sciences:							
Questionnaires	3ac80st	30ac5st	33ac21st	1ac11st	19ac27st	30st	86ac 172st
Interviews	2	6	5	3	1		17
Focus groups				1st	2ac		1st 2ac
English:	1ac15st	2ac23st	3ac13st	4ac35st	2ac3st	3ac18st	15ac 107st
Questionnaires	2	1ac	4	3	1		10
Interviews		(e-mail)		1st	1st		1ac 2st
Focus groups							
Business studies:							
Questionnaires	2ac58st	7ac33st	16ac10st	0ac29st	4ac82st	11st	29ac 223st
Interviews	1ac	1	4	3	4ac 1st		12ac 1st
Focus groups							1ac
TOTAL: Questionnaires (LIS and academic)	20	50	64	15	32	11	
TOTAL: Questionnaires (student)	153	61	44	75	112	59	
TOTAL: Interviews and focus groups	8	12	16	13	12		

Table 4: Cycle 1 data details (Higher Education Only)

3.1.2 JUBILEE DATA DETAILS FOR CYCLE 2

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	TOTAL
LIS/IT staff: Questionnaires Interviews Focus groups	 2 2 1	 7 2 1	 9 4 1	 7 2 1	 14 3 1	 7 2 1	 46 15 6
Computing: Questionnaires Interviews Focus groups	 1ac 2st 1ac	 3ac 15st	 18ac 150st 3ac 2	 6ac 8st 9 ac 1st	 3ac 6st 2ac 6st	 2ac 3st 4ac	 33ac 184st 19ac 7st 1ac 1st
History: Questionnaires Interviews Focus groups	 3ac 21st 2ac 1st	 8st 1ac 1st	 3ac 6st 3ac 1	 N/A	 1ac 4st 3ac	 2ac	 7ac 39st 11ac 1st 2st
Sociology: Questionnaires Interviews Focus groups	 4ac 17st 2ac	 6ac 17st 3ac 2st 1st	 3ac 1st 4ac 1st	 1ac 20st 7ac	 2ac 4st 4ac	 4st 2ac 1st	 16ac 63st 22ac 3st 2st
TOTAL: Questionnaires (LIS and academic)	10	16	33	14	20	9	102
TOTAL: Questionnaires (student)	40	40	157	28	14	7	286
TOTAL: Interviews and focus groups	9	11	19	20	19	12	90

Table 5: cycle 2 data details (Higher Education)

	Site 1	Site 2	Site 3	Site 4	Total
LIS/ IT staff					
Questionnaires		2	5	5	12
Interviews	2	3	2	2	9
Senior managers					
Questionnaires	1	2	1		4
Interviews	2	2	2	2	8
History					
Questionnaires (staff)	1		2		3
Questionnaires (students)	68	26		49	143
Interviews/focus groups (staff)	1	1	1	1	4
Focus groups (students)	1	1	1	1	4
Sociology		*Courses no longer running due to staff illness*			
Questionnaires (staff)	1			1	2
Questionnaires (students)	66		3	29	98
Interviews/focus groups (staff)	1		1	2	4
Focus groups (students)	1		2	2	5
IT/Computing					
Questionnaires (staff)	2	2			4
Questionnaires (students)	30	26	104	22	182
Interviews/focus groups (staff)	1	1	2	2	6
Focus groups (students	2	3	2	2	9
Total					
Questionnaires staff	**5**	**6**	**8**	**6**	**25**
Questionnaires students	**164**	**52**	**107**	**100**	**423**
Interviews and Focus groups	**11**	**11**	**13**	**14**	**49**

Table 6: Cycle 2 data details (Further Education)

3.1.3 JUBILEE DATA DETAILS FOR CYCLE 3

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Total
LIS/ IT staff							
Questionnaires	11	10	3	3	3	6	**36**
Interviews	5	9	3	5	6	5	**33**
Art / Design							
Questionnaires (staff)	1	1	0	2	Not participating	0	**4**
Questionnaires (students)	0	7	3	0		0	**10**
Interviews/focus groups (staff)	1	2	2	0		1	**6**
Student email interviews	0	3	0	0		0	**3**
Law							
Questionnaires (staff)	5	Not participating	3	3	3	0	**14**
Questionnaires (students)	12		2	6	25	0	**45**
Interviews/focus groups (staff)	5		3	2	3	3	**16**
Student email interviews	0		0	0	3	0	**3**
Geography/Env. Studies							
Questionnaires (staff)	Not running	2	0	0	2	Not participating	**4**
Questionnaires (students)		22	0	69	128		**129**
Interviews/focus groups (staff)		3	1	3	3		**10**
Student email interviews		2	0	0	6		**8**
Total							
Questionnaires (LIS and academic)	17	13	6	8	8	6	**58**
Questionnaires (students)	12	29	5	75	153	0	**274**
Interviews and Focus groups (LIS and academic staff)	11	14	9	10	12	9	**65**
Student email interviews	0	5	0	0	9	0	**14**

Table 7: Cycle 3 data details (Higher Education)

	RSITE A	RSITE B	RSITE C	Total
LIS Interviews	2	3	3	**8**
Business Interviews	-	5	3	**8**
Health Interviews	4	-	-	**4**
TOTAL	**6**	**8**	**6**	**20**

Table 8. Cycle 3 revisit sites data details for HE

	Site 5	Site 6	Site 7	Site 8	Site 9	Total
LIS/ IT staff						
Questionnaires	4	4	4	3	8	**23**
Interviews	5	3	2	3	1 (9 fg)	**23**
Senior managers						
Questionnaires	0	0	0	0	0	**0**
Interviews	3	1	3	2	2	**11**
Art / Design						
Questionnaires (staff)	0	Not Participating	1	0	1	**2**
Questionnaires (students)	23		50	0	26	**99**
Interviews/focus groups (staff)	2		4	1	4	**11**
Student email interviews	0		2	0	3	**5**
Law						
Questionnaires (staff)	1	1	1	2	1	**6**
Questionnaires (students)	2	10	59	2	11	**84**
Interviews/focus groups (staff)	1	1	1	1	1	**5**
Student email interviews	0	0	4	0	1	**5**
Geography / Env Studies						
Questionnaires (staff)	1	1	4	Not Participating	1	**7**
Questionnaires (students)	2	0	99		23	**124**
Interviews/focus groups (staff)	1	1	4		1	**7**
Student email interviews	0	0	6		0	**6**
Business Studies						
Questionnaires (staff)	0	0	0	0	5	**5**
Questionnaires (students)	10	7	14	5	49	**94**
Interviews/focus groups (staff)	2	2	2 (fg)	2	3	**11**
Student email interviews	0	1	2	0	0	**3**
Total						
Questionnaires (LIS and academic)	6	6	10	5	16	**43**
Questionnaires students	37	26	222	7	109	**401**
Interviews and Focus groups	14	8	16	9	21	**68**
Student email interviews	0	1	14	0	4	**19**

Table 9: Cycle 3 data details (Further Education)

Interviews	10	11	12	13	14	15	16	17	18	19	Total
LIS	1	1	1	2	1	1	1	1	1	1	**11**
Snr Mgt	0	1	1	-	0	0	1	1	-	0	**4**
Business	1	1	1	1	-	-	1	-	1	1	**7**
Law	-	1	-	1	-	1	-	-	1	-	**4**
Art	1	1	1	-	4	1	1	1	1	1	**12**
Geography	-	1	-	1	-	1	-	-	1	1	**5**
Total	**3**	**6**	**4**	**5**	**5**	**4**	**4**	**3**	**5**	**4**	**43**

Table 10: Cycle 3 data details FE 'snapshot' sites

3.1.4 JUBILEE DATA DETAILS FOR CYCLE 4

	Site 1	Site 2	Site 3	Site 4	Site 5	Total
LIS/ IT staff/ ILT						
Questionnaires	15	6	12	-	-	**33**
Interviews	7	7	4	8	7	**33**
Politics						
Questionnaires (staff)	-	5	-	-	-	**5**
Questionnaires (students)	-	-	7	-	-	**7**
Interviews/focus groups (staff)	2	1	2	2	-	**7**
Biology						
Questionnaires (staff)	-	4	-	-	-	**4**
Questionnaires (students)	4	6	23	-	-	**33**
Interviews/focus groups (staff)	5	3	2	3	-	**13**
Film/ Media studies		Course not running				
Questionnaires (staff)	-		-	-	-	**-**
Questionnaires (students)	18		17	-	-	**35**
Interviews/focus groups (staff)	4		2	3	-	**9**
History						
Questionnaires (staff)		1				**1**
Questionnaires (students)		-				**-**
Interviews/focus groups (staff)		2				**2**
Total						
Questionnaires(LIS & academic)	15	16	12	-	-	**43**
Questionnaires students	22	6	47	-	-	**75**
Staff interviews and focus groups	18	13	10	16	7	**64**

Table 11: Cycle 4 data details - in-depth HE case study sites

	RSITE A	RSITE B	RSITE C	Total
LRC Interviews	4	2	2	**8**
Sociology Interviews	-	-	2	**2**
History Interviews	2	2	-	**4**
TOTAL	**6**	**4**	**4**	**14**

Table 12: Cycle 4 data details – revisit HE case study sites

	Site 1	Site 2	Site 3	Site 4	Total
LIS/ IT staff/ ILT					
Questionnaires	5	9	5	10	**27**
Interviews	2	5	9	4	**20**
Senior managers					
Interviews	-	2	-	-	**2**
Politics	Not running		Non participation		
Questionnaires (staff)		-		1	**1**
Questionnaires (students)		-		-	**-**
Interviews/focus groups (staff)		1		1	**2**
Biology					
Questionnaires (staff)	3	2	-	1	**6**
Questionnaires (students)	36	3	44	15	**98**
Interviews/focus groups (staff)	3	2	3	3	**11**
Film/ Media studies					
Questionnaires (staff)	-	1	-	-	**1**
Questionnaires (students)	8	20	74	-	**102**
Interviews/focus groups (staff)	2	1	2	2	**7**
Total					
Questionnaires (LIS and academic)	8	12	5	12	**37**
Questionnaires students	44	24	118	21	**207**
Staff interviews and focus groups	7	11	14	10	**42**

Table 13: Cycle 4 data details in-depth FE case study sites

Interviews	5	6	7	8	9	Total
LIS	3	1	1	1	3	**9**
Senior Mgt	-	1	1	1	-	**3**
Politics	-	-	1	-	1	**2**
Biology	1	1	1	1	-	**4**
Film/Media Studies	1	1	-	1	-	**3**
Total	**5**	**4**	**4**	**4**	**4**	**21**

Table 14: Cycle 4 data details 'snapshot' FE case study sites

	Site A	Site B	Site C	Site D	Total
Academic staff					
Questionnaires			-	9	**9**
Interviews/ focus groups			10	17	**27**
Students					
Questionnaires	19	17	75		**111**
Interviews/ focus groups	19	17	33		**69**
Total					
Questionnaires (staff)	-	-	-	9	**9**
Questionnaires (students)	19	17	75	-	**111**
Interviews/ focus groups (staff)	-	-	10	17	**27**
Interviews/ focus groups (student)	**19**	**17**	**33**	-	**69**

Table 15: Cycle 4 data details action research case study sites (HE and FE)

3.2 JUBILEE FIELDWORK IN CYCLE 5

3.2.1 HE DATA DETAILS FOR CYCLE 5

A strategic emphasis has also been placed on the further targeting and expansion of the longitudinal dimension of research to add to emergent findings in the evolution of EIS user behaviour documented in previous JUBILEE reports. In HE, four case study sites have been revisited to monitor ongoing development, two of which were first studied in cycle 3 (focusing on the law discipline), and two that JUBILEE has now investigated over the lifetime of the project (examining the business subject area in cycles 1, 3 and 5). Methods and findings from this revisit activity are explored in section 5.2.

Cycle 5 has also seen two new baseline HE sites visited. While activity in cycle 5 has focussed on revisiting sites to gain longitudinal insight, it was felt important to also continue to collect baseline data from some new HE sites, and extend the already wide coverage of UK HE institutions that JUBILEE has investigated, both in terms of sampling a range of different geographical areas and institutional types. Questionnaire responses from HE students follow the trend noted in cycles 3 and 4, and remain disappointing in number. In cycle 5 the two in-depth sites in this cycle were self-selecting, individuals from each site being already aware of JUBILEE's activity owing to the project's widespread dissemination, and as a result expressing interest in being involved. Furthermore, in addition to the monitoring activity two one-off, in-depth impact studies have been undertaken to "drill down" topics and trends identified as being potentially significant for the JISC as providers of EIS (See section 5.4).

	Site 1	Site 2	Total
LIS/ IT staff/ ILT Interviews	3	4	**7**
IT/Computing			
Interviews (staff)	2	3	**5**
Questionnaires (students)	-	-	-
Sociology		**Not investigated at Site 2**	
Interviews (staff)	3		**3**
Questionnaires (students)	75		**75**
Business Studies			
Interviews (staff)	1	1	**2**
Questionnaires (students)	82	-	**82**
Psychology	**Not investigated at Site 1**		
Interviews (staff)		3	**3**
Questionnaires (students)		-	-
Total			
Staff interviews	9	11	**20**
Questionnaires students	157	-	**157**

Table 16: Cycle 5 data details - in-depth HE case study sites

	RSITE A	RSITE B	RSITE C	RSITE D	Total
LRC Interviews	2	5	2	4	**13**
Law Interviews	3			3	**6**
Business Interviews		3	2		**5**
TOTAL	**5**	**8**	**4**	**7**	**24**

Table 17: Cycle 5 data details – revisit HE case study sites

3.2.2 FE DATA DETAILS FOR CYCLE 5

Three FE sites were studied in depth in cycle 5, in order to further augment the rich and unique picture JUBILEE has accumulated over the course of the FE strand of further education staff and student user behaviour. The JISC new audiences of ACL (Adult and Community Learning) which includes Modern Apprenticeships, and the cross over area of HE in FE, were specifically targeted in cycle 5 activity. The first FE case study was carried out early in the fifth cycle, and served as a pilot for the new focus of FE fieldwork in the other two sites. Additionally a survey was sent to all North East, Yorkshire and Cumbria FE colleges to add to the large extant dataset of staff, librarian and student opinion collected from cycle 3 onwards, in order to facilitate continued longitudinal monitoring of EIS attitudes, abilities and activity. A full and detailed exposition of methods and findings of the further education strand of JUBILEE in cycle 5 can be found in section 5.3. The following table details the total number of interviews conducted and questionnaires collected within each of the in-depth FE institutions:

	Pilot study	Site 1	Site 2	Total
LIS/ IT staff/ ILT				
Questionnaires	2	3	3	**8**
Interviews	2	4	4	**10**
Senior managers				
Interviews	1	1	-	**2**
Business	Not researched at site			
Questionnaires (staff)		2	2	**4**
Interviews/focus groups (staff)		3	2	**5**
Questionnaires (students)		54	11	**65**
Focus Groups (students)		1	1	**2**
Biology	Not researched at site			
Questionnaires (staff)		2	3	**5**
Interviews/focus groups (staff)		2	3	**5**
Questionnaires (students)		99	20	**119**
Focus Groups (students)		1	1	**2**
English (A-Level)				
Questionnaires (staff)	1	-	2	**3**
Interviews/focus groups (staff)	1	1	2	**4**
Questionnaires (students)	18	5	20	**43**
Focus Groups (students)	1	-	-	**1**
Foundation Deg: Early Yrs		Not researched at site		
Questionnaires (staff)	2		1	3
Interviews/focus groups (staff)	2		2	**4**
Questionnaires (students)	14		8	**22**
Focus Groups (students)	2		1	**3**
Mod. Apprenticeship: C/H				
Questionnaires (staff)	3	1	-	4
Interviews/focus groups (staff)	1	1	1	**3**
Questionnaires (students)	3	-	14	**17**
Focus Groups (students)	1	-	-	**1**
Total				
Questionnaires (Staff A + L)	8	8	11	**27**
interviews (Staff A + L)	7	12	13	**32**
Questionnaires (students)	35	158	73	**266**
Focus group (students)	4	2	3	**9**

Table 18: Data details for Cycle 5 FE in depth fieldwork

Data analysis across both HE and FE has been ongoing, with interview tapes transcribed soon after the fieldwork visits. Data have subsequently been prepared, using qualitative categorisation using an indexing tree developed as the result of over four years of expertise and knowledge building. Questionnaire responses have been coded and entered into SPSS files. Investigation and interpretation of the databases have been undertaken and presented in this report, as follows:

- As rich, qualitative evidence (see Sections X);
- As a basis for extending The JUBILEE Toolkit (see Section X);
- As a base for developing trends (see Section X)

Reports for each case study site have been collated to inform the sites themselves, and to enable them to validate the data collected by the JUBILEE researchers.

3.3 METHODOLOGY AND ISSUES ARISING

The triangulation of qualitative and quantitative approaches used in previous cycles has been replicated for this cycle with amendments made to research methods practice as recommended in the cycle 2 report (see website for reports). Additional new research activity has also been added.

Research methods in cycle 5 have comprised:

- Questionnaires, both staff and student, in paper and e-mail versions, sent to academic and LIS/IT staff and students in target disciplines to collect background data on information behaviour, especially in relation to EIS. The questionnaire used in cycle 5 was amended to reflect changes occurring within the sector over the past three years. Both HE and FE questionnaires were shortened but a number of the questions used in previous cycles were retained in order that longitudinal evaluation and trend spotting can be continued;
- Face-to-face interviews with key informants in disciplines and LIS service personnel at case study sites were again supplemented by the use of e-mail and telephone interviews;
- Face-to-face interviews with other academics in target disciplines snowballed by LIS staff and other academics;
- Increased emphasis on re-visits in HE to further the longitudinal picture emerging, in order to monitor changes and test The JUBILEE Toolkit;
- Round Table and impact studies.

Whilst no particular problems had been encountered in cycle 1 with the questions on the questionnaire, the project team decided to re-visit it critically and to shorten it overall in the interest of improving response rates in cycle 2.

A small experiment was conducted at HE cycle 2, whereby 50 mini, 50 micro and 50 full length questionnaires were distributed together, in order to investigate the effect of length and format on student response rates. Three mini, 3 micro and 5 full length questionnaires were returned. This was reported to the Project Advisory Group, which was as disappointed as the project team. It was decided therefore, to persist with the full-length version in cycle 3, and no further amendments were made.

The questionnaires were shortened during cycle 5 to reflect sector changes over the past three years and to respond to disappointing responses. Unfortunately this did not greatly improve responses. The team had hoped to produce and distribute questionnaires using SNAP - web-enabled questionnaire design and analysis software – however, university policy would not permit this.

Despite the issues highlighted above, the research methods used in JUBILEE cycle 1 did succeed in identifying and characterising variations in information seeking behaviour between

disciplines and between sites. For cycle 2, minor amendments were made to research methods as recommended by the Project Advisory Group. By the end of cycle 3, the project team was satisfied that the research methods in use were those best suited to the task. The overriding and on-going disappointment is the difficulty in obtaining data.. There will therefore be less valid data available of the breadth and depth needed to support the very detailed comparisons between the many variables (site, discipline, user group) as had been originally hoped for.

3.3.1 GOOD FIELDWORK PRACTICE

The cycle 1 report highlighted key points of good fieldwork practice for use in subsequent cycles. These points are reproduced here with developments made during cycles 2-5 italicised:

- In disciplines with very large student numbers, such as Health Sciences or Business, it will probably not be possible to send out questionnaires to all students; a sample is permissible, provided that it includes all types of student (full time, part time, distance etc.)

  In cycles 2, 3 and 4 and continuing in cycle 5 blanket coverage was used whenever permitted by the site, in the hope of maximising returns.

- E-mail questionnaires with the questions delivered as a text message are generally easier for respondents to cope with and therefore preferable to other forms, such as an attachment

  In cycles 2 and 3, this was again found to be the case, and was used whenever the site could facilitate the process. It is suggested that a web-based questionnaire may prove a more popular format for students, and also that it still needs to be shorter. The questionnaires were shortened for cycle 5 but university policy would not permit the use of a web-based questionnaire.

  A potential problem is the lack of IT access in some FE colleges, making solely electronic questionnaires unrealistic. In cycle 4 student email questionnaires were not used in the FE sector, one reason being that many of the colleges don't supply institution wide email accounts. In cycle 5 only small numbers of FE respondents were contacted by email, and then only when such a course was recommended by academic staff.

  This is increasingly becoming similar in HE institutions and many students are now not using university based e-mail accounts. Consequently, e-mail questionnaires may only be possible where universities have, and are prepared to make available, details of students' home e-mail details.

- Consider book token/ WHSmith token prize to encourage student response

  There was insufficient funding for this to be a realistic option in cycle 2. This was a strategy used in cycle 3, but with no discernible change in response rates. From cycle 4 onwards this avenue was not taken due to there being no discernable improvement in response rates.

- Cycle 1 has shown the library does not necessarily have the most up-to-date or appropriate information about departments and contacts, and time has been wasted. Researchers have resolved to be more pro-active themselves in contacting Departments, with appropriate permissions; snowballing from one contact to the next is also successful

  This strategy successfully implemented in every cycle since, the method continuing in cycle 5.

- All sorts of problems with mailings, bulk mailings, post rooms, covering letters, return envelopes and who does what; patience and a cool head are essential.

  Researchers have maintained good control over organisational and logistical issues of conducting fieldwork in cycle 5.

- Make more use of telephone interviews, which can be undertaken at any time and are not confined to the time when the researcher is on-site

  This more flexible approach proved successful in cycles 2, 3, 4 and 5, particularly when there were numerous, concurrent demands on researcher time.

- Much has been learned about fieldwork planning – a very long lead time is required to establish contacts and channels of communication at the site and to allow Departments to plan student participation; flexibility is essential. It is seldom possible to parcel the fieldwork at a site neatly into the week the researcher happens to be there; it is to the project's advantage to be flexible, which places a high value on the organisational skills of the researchers, who will almost certainly be undertaking fieldwork at several sites at the same time. The optimum time for fieldwork seems to be the Spring Term from all points of view, although it is clearly not possible to compress it all into this time span.

  Cycle 1 experience helped iron out this issue through increased flexibility. Increased telephone interviews in cycle 5 have also addressed this problem and aided participation.

- Various innovative ideas about contacting students e.g. Departmental clubs; Students' Union; posters; newsletters

  Again in cycle 5 all likely approaches were used, without increased success.

In addition, discussion with the evaluator during cycle 2 highlighted the need to explicitly obtain feedback from sites on the case study reports. Such feedback would have a role to play in assessing the impact of the JUBILEE project. Consequently, each site is asked the following questions in the current cycle:

- Do you feel this report accurately reflects your institution?
- Is there anything that you would have liked to know or find out that has not been covered?
- What is the most useful bit of this report?
- Where there any findings which surprised you?
- Which colleagues (within & outside the library service) will you share this report with?
- How will you use the information in this report?

4. DEVELOPMENT OF THE JUBILEE TOOLKIT

A major deliverable from the JUBILEE project was described in the original project proposal to the JISC in 1999 as:

A benchmarking tool, in the form of an Action Plan for the use of HE managers, based on the characterisation of user-based success criteria in relation to EIS, as seen from the users' points of view. HE managers will be enabled to see how well positioned they are to exploit JISC resources and to support their decision making with respect to EIS. (Original JUBILEE tender)

The JUBILEE Toolkit is an evaluation tool based on qualitative evidence from large-scale fieldwork-based investigation in HE and FE, into understanding user behaviour in relation to EIS. It is all about impact and change, usable to demonstrate the impact of changes in EIS provision and use in institutions. It is practical, bridging the research/practice divide. In cycle 5 it has developed into a benchmarking tool for self-diagnosis and self-improvement by institutions.

The JUBILEE Toolkit consists of:

- A web based version with a searchable database, populated with a sample of the project's fieldwork data – see http://www.jubileetoolkit.org;
- Toolkit description and example walk-through, also on the website;
- A one page printed outline version of the Toolkit for use during longitudinal monitoring at re-visit fieldwork sites and at dissemination events.

4.1 SUMMARY OF JUBILEE TOOLKIT DEVELOPMENT IN CYCLES 1-4

Cycle 1

This was the baseline cycle when the toolkit **themes** were derived from fieldwork data. Six themes were identified in cycle 1: Access; Resource base; User knowledge/skills; Embedding of EIS; Quality assurance; Seamlessness.

Cycle 2

Five toolkit **development stages** were identified (Baseline, Change, Congruence, Embedding, Full Integration) based on an earlier generic model developed at IMRI (see Jubilee cycle 3 report, available at http://is.northumbria.ac.uk/imri . Benchmarks were added to indicate the current position of EIS provision and use in the institution. The Toolkit was designed for use by LIS staff, academics and institutional managers in the first instance, and to be searchable by discipline, theme and development stage.

Cycle 3

Cycle 3 saw development of the content of The Toolkit, and also its development into version 1 of a web enabled prototype. A small amount of HE fieldwork data was used from cycle 2 sites, in three disciplines.

An objective of the revisit exercise to fieldwork sites from earlier cycles was to gain feedback and evaluation from academics and library staff as to the usefulness and validity of the Toolkit. There was a positive response from research respondents regarding the use of the Toolkit framework to measure changes in EIS provision and use, and attitudes towards them. A number of constructive comments and developmental issues also arose (see JUBILEE Third Annual Report) which informed further developments to the Toolkit during cycle 4.

Cycle 4

Cycle 4 saw successful use of the Toolkit both as a service improvement and evaluation tool, and also as a mechanism for the collection of primary research data. Feedback from fieldwork participants during cycle 3 informed modifications to the Toolkit in respect of:

- **Taxonomy**. Interviewees found the terminology used to describe the 5 developmental stages to be not easily recognisable in practice, in particular the term 'congruence'. Greater clarity and accessibility was needed in order to allow effective, self-directed use of the Toolkit, and consequently a straightforward 1-5 numbering system was adopted;

- **Use of the Toolkit**. Cycle 3 re-visits had also reinforced the value to institutions of being able to isolate a particular theme within their overall approach to EIS development at institutional level. Themes were likely to be at different stages of development within the same institution. Example graphical presentation of findings by theme and stage was therefore added to the website to be used in tandem with evidence in the Toolkit, to promote both holistic and theme-based assessment at institutional level;

- **Evolution of Toolkit themes**. Based on user feedback the Toolkit themes were re-configured to be more recognisable and meaningful, as follows:

Cycle 1 themes	Cycle 4 themes
Access	**Access** (unchanged)
Resource base	removed
User knowledge/skills	became **User education and training**
Quality assurance	subsumed into User education and training
Embeddedness of EIS	re-labelled as **Integration of EIS into teaching and learning**
Library and academic staff liaison	(new theme)
Seamlessness	re-configured as **User Behaviour**, with seamlessness seen as the consequence of all aspects of EIS working together effectively

Table 19: Evolution of Toolkit themes in cycle 4

- **Toolkit outline.** Toolkit themes and development stages are used as the basis for re-visit interviews at fieldwork sites from earlier cycles. The outline thus provides a framework for the longitudinal monitoring of EIS development in institutions. For every theme each of the development stages (baseline, change, congruence, embedding, full integration) are characterised, with a brief outline of key characteristics that suggest the level of development reached (See figure 20).

Theme	Stage	Potential characteristics
Access	*1*	Inadequate user to PC ratio, with limited scope for remote access to EIS
	2	User to PC ratio being improved and users' access needs beginning to be considered in detail
	3	IT infrastructure adequate to meet needs of most users, and strategies being developed to improve EIS access both on and off campus
	4	Access to EIS facilitated via multiple avenues, enabling users to use EIS both on and off campus. Extensive opening hours of IT areas
	5	Highly developed provision and access policies meeting EIS needs of users, whether on campus or remote to it. Continual process of review
LIS/ academic liaison	*1*	Limited, uncoordinated communication between library staff and academic staff
	2	Relationships being strengthened
	3	Some reciprocal presence on library and academic boards and committees
	4	Effective partnership between students, researchers, academic and library staff
	5	Ongoing partnership and collaborative working to maintain and improve EIS awareness/use
Training	*1*	Any EIS skills training fragmented, no formal statement of responsibility, little user needs assessment.
	2	EIS training available, with increased 'joined up' thinking regarding how provided and who provides it.
	3	Provide and monitor effectiveness of skills training
	4	User education and monitoring, restructured framework for needs assessment
	5	Consensual LIS/academic institution-wide training programme, tailored to best fit user needs. Any such training subject to frequent review
Integration of EIS	*1*	Little awareness of EIS available and no strategy for embedding EIS in learning/teaching
	2	Awareness of appropriate EIS developing, and some localised use of EIS in individual courses
	3	Maintained current awareness, and informal strategies being developed to embed EIS
	4	Wide awareness of EIS, and embedding into courses and curricula by groups of academics
	5	University wide student/user-centred embedding strategies, curriculum involvement and continuous performance assessment
User behaviour	*1*	Reliance on printed sources of information, with little use or awareness of relevant EIS and limited IT literacy
	2	Printed resource use prevalent, but with greater use and awareness of EIS among some groups of users
	3	Use of both print and EIS material, increased IT literacy, but limited awareness of EIS other than Internet search engines
	4	Increasingly integrated use of different media, and a critical awareness of EIS married with the acquisition of information seeking skills
	5	Individual behaviour recognised and satisfied, (with seamless use of the most appropriate resource, be it print or EIS).

Table 20: Outline of The JUBILEE Toolkit themes and development stages.

The Toolkit was further tested and refined via cycle 4 revisit methods as well as through presentations and dissemination activity.

4.2 TOOLKIT DEVELOPMENT IN CYCLE 5

Recommended Toolkit development activities for cycle 5 were:

- To increase content;
- To re-design the project website, integrating the Toolkit, and provide:
  - Ease and clarity of use;
  - Accessibility for all users. The Toolkit must comply with current disability codes of good practice;
  - Ease of navigation;
  - Flexibility to easily incorporate the findings from future research cycles, and future evolution in Toolkit design;
  - Provide the user with a variety of *'fit for purpose tools'* (both online and downloadable) to allow them to monitor and evaluate their own EIS integration progress;
  - Provide sufficient and appropriate online help for the use and application of the toolkit and resulting tools.
- To overhaul the technical aspects of the Toolkit, to provide improved functionality and increase interactivity between the Toolkit, the tools and the user.

The aim for cycle 5 has been to trial a fully functioning web enabled benchmarking tool based on a searchable database, populated with a sample of data from one discipline (Law). All aspects of its development are reported, highlighting, in particular, areas of difficulty.

Developments to the Toolkit have therefore focused on:

- Re-working the **technical aspects** of the website to improve its operation, interactivity and data storage facilities
- Development of **indexing procedures** for Toolkit content
- Re-presentation and extension of Toolkit **content**
- Development of **explanatory text** about the rationale underpinning the Toolkit, and including an example walk through of its use
- Inclusion on the Toolkit website of evidence of Toolkit **use and impact** in institutions, by discipline and by site
- **Dissemination** about the Toolkit

4.2.1 WEBSITE DEVELOPMENT – TECHNICAL ASPECTS

Technical developments were required to build the Toolkit into a benchmarking tool, based on the project's qualitative evidence.

- A new, easier access and more independent location for the Toolkit has been obtained at http://www.jubileetoolkit.org
- Data has been re-structured around use of an Excel spreadsheet to give a more robust, flexible and expandable database
- New functionality has been added in respect of:
  - In-built benchmarking facility where users can build up their own profiles
  - Different search strategies can be accommodated – by discipline, theme, development stage and/or sector (only the discipline approach is demonstrated)

Program Documentation

There are three main options in working with the Toolkit: benchmarking, data entry/edit and searching. These procedures are documented in the following paragraphs.

Benchmarking

The user starts by selecting educational sector and discipline from drop down menus - (selectDiscip.cgi). User choices are passed to the next html form (selectStage.cgi) and hidden from view. User then chooses a stage and theme and goes to the next html form (selectSub_theme.cgi) to select a sub-theme. All details are then submitted to a final page in the section (getEvidence.cgi). The database is searched for evidence in the appropriate section. If it exists, evidence is returned, otherwise the message "Sorry, there is no data to match your query. Search again" is printed.

When evidence is returned, each section has a checkbox that can be selected and a button 'store selection' appears at the bottom of the page. The user selects sections they are interested in and clicks the button. A final page gives advice generated from the database at the appropriate stage (Baseline, Change, Congruence, Embedding, Full integration) (assess.cgi). If the user selected only a few of the evidence sections, advice is given from that stage and that of the previous stage also.

Data entry/edit

This section is restricted to users with usernames and passwords. Users must login (login.cgi). An authentication page gives a message 'Login successful' and a link to the next page, or 'Login incorrect , please try again'. In the latter case the login form is also reproduced (authenticateUser.cgi). The choose action page provides an add evidence link and edit advice data link (chooseAction.cgi). On the advice page, a list is produced from the database, where id codes are links. (editAdvice.cgi). The user clicks on id for the section to edit and goes to the next page. On the edit page, a text box contains the data to be changed and submitted (updateAdvice.cgi). Once submitted, users are provided with links back to the choose action page and the tips listing (update.cgi).

If the user chooses to enter evidence, they must firstly select an educational sector (evidence.cgi). The next page contains the main entry form (addEvidence.cgi). This form is submitted on the next page where users select a sub-theme and then add keyword and evidence data (addText.cgi). See Formatting Example. Once this is submitted, the evidence is printed out with other meta data and hyperlinks back to the main entry form, or second part of the form are given (addData.cgi).

Search

Users can choose to search the evidence database by keyword, stage or discipline. Each search has its own form on the page (chooseSearch.cgi). The keyword search allows the user to type into an input box, while the others are based on drop-down menus.

Keyword - the keyword search looks for matches in either the keyword field or evidence field, or both. If a match is found, that row from the database is listed (keywordSearch.cgi). Users can click on the ids to view the evidence field. Users then have a choice whether to save their selection, or to search again. To save they must click the 'save selection' button. This evidence id is then saved to file. Otherwise the 'search again' button take them back to the choose search page (viewKeyEvidence.cgi).

If the user saves the selection they are directed to a select stored page where they can choose to finish searching, or to continue to search again (writetofile.cgi). If they choose to finish, their selection, or selections are printed to the page. An 'end search' button deletes the file containing file ids and a link to 'home' is given (clear.cgi). If the user chooses to search again, they are taken back to the choose search page and the file containing file ids remains open.

Discipline – the user selects a discipline from a drop down menu on the choose search page. This is then used to bring back table rows from the database similar to the keyword search (discipSearch.cgi). The user can click on ids to see the evidence field and choose to save or to search again (viewEvidence.cgi). Then as keyword search. (writetofile.cgi -> clear.cgi).

Stage – as discipline except: stageSearch.cgi, viewEvidence.cgi, writetofile.cgi, clear.cgi

Theme – as discipline except: themeSearch.cgi, viewEvidence.cgi, writetofile.cgi, clear.cgi

4.2.1.5 Formatting example

Example of formatting used for entry of evidence data in addText.cgi. HTML tags <p> are used to separate paragraphs, and should enclosed sections of direct quotes.
 can also be used to enforce a line break.

For the most part however law academics express general satisfaction with the breadth and depth of electronic resources available from the library for the study of law:
<p>
 What has happened over recent years is that as more information has become available electronically the amount of hardcopy stuff we actually get has reduced, but given that its all down to money, accessing electronically gives us a lot more savings than hardcopy so it makes sense. (Law academic)
See Appendix D for Toolkit Flow Diagram

4.2.2 INDEXING PROCEDURES

A small working classification scheme was developed based on Toolkit themes, for use in indexing content. Toolkit themes form the basis of the hierarchy and were expanded to an additional two levels of detailed terms. The initial hierarchy used in cycle 5 is included below.

Theme	Sub-theme	Detailed terms
ACCESS	Physical	Location Number pcs Disabled Remote access Opening hours
	Intellectual	Direction Guidance material Tutorials Induction
	Expectations	Library staff Students Academics
	Technology	Seamless delivery Range of eis Technical support
	Links	Internal - management - academics - library staff External - suppliers - licensing arrangements - institutions
LIAISON	Communication	Schools Colleges Internal Suppliers
	Systematic approach	Defined roles Active participation Budgeting Provision Promotion
TRAINING	Information skills	Integrated Seamless support Promotion Materials - print based - online

	Awareness	Students Academics Assessment
INTEGRATION	Collaboration	Academics Management
	Curriculum	Planning Delivery Embedded Assessment
USER BEHAVIOUR	Students	Learning styles Self-efficacy Experience
	Academic staff	Learning styles Self-efficacy Experience
	Library staff	Training Commitment Defined role
	Evaluation	Students Academics
RESOURCES	Range	Nature of resource Delivery mechanism - vle - web page
	Budget	Core funding Project specific
	Sustained provision	

Table 21: Indexing terms

Consensus was sought within the project team to confirm the fixed terms, to form the basis for a thesaurus to give consistency in indexing to those terms. When used in practice the following detailed points were made:

- Time taken (and therefore, cost);
- Main issues

A cycle 5 objective was to reflect on the process of data mining, in order to inform future larger scale data re-purposing. A data subset was used, and the project officer's reflective log is included below. It highlights the practical issues encountered, and the time taken to undertake such work. The activity described was undertaken on a part-time basis through May and June.

- *In late April we discussed how I should approach the task of indexing the data.*
- *I had been given an 'initial hierarchy' of indexing terms by, which had been devised based upon the project's key areas*
- *My initial task was to go through the data and devise a set of codes to assign to any phrases or paragraphs fit in with the hierarchy terms. If necessary, I was asked to add extra terms to the initial hierarchy where there was something in the questionnaires and interview transcripts that wasn't catered for by any of the terms in the initial hierarchy. It was important, however, that I didn't assign a term to any of the data if it didn't completely 'fit'.*
- *I was also allowed to alter terms in the initial hierarchy to match the wording in the questionnaires and interview transcripts, if necessary, if the terms used in the data by respondents/interviewees were consistent enough so that it was worth changing the hierarchy terms.*
- *I then had an initial look through the data ... It consists of just over 150 student questionnaires from the Law and Geography disciplines, a few questionnaires sent to academic staff, and some interview transcripts. There are 9 in total but I decided to only code 7 of them, because these were 'proper' transcripts whilst the other 2 looked to be in the form of notes or reported speech. As I couldn't tell whether these 2 contained direct quotes from the interviewees, I decided not to code the information, as I didn't want to treat it in the same way I treated the rest of the data.*

- *Another meeting - I explained what I had done so far, looking through the data and making initial observations as to how it corresponded with the terms in the initial indexing hierarchy. I then devised a colour-coding scheme that I would use when manually coding the data. There were 7 main themes, each of which had between 2 and 5 sub-themes, and further sets of mini-themes. We agreed that I would only colour-code the main themes, partly because there were just so many sub- and mini-themes. The other reason was that only coding the main themes would make it easier for anyone looking at the data in the future to alter the terms in the sub-themes if they thought it necessary.*

- *I started with the student questionnaires. Only 1 page of these (p.3) contained useable qualitative data. I also thought that terms may only need to be added or altered at 'sub-theme' level in the hierarchy when I had looked at the interview transcripts, which contained far more detailed data. I arranged a meeting to discuss progress.*

- *A new theme was added to the hierarchy in the meeting. It was pointed out by Ali that the student questionnaires assess the IMPACT of EIS and there was nothing in the initial hierarchy that related directly to this.*

- *I started by only assigning the main themes a colour code as I didn't know exactly how detailed it needs to be – assigning colour codes to every sub-theme would be far too complicated. So I decided to code the sub-themes verbal codes instead.*

- *I went through the first 50 student questionnaires as a trial run, to see how the codes matched the comments made by the respondents. I thought that I may need to add another theme because I realised that there was nothing in the initial hierarchy of indexing terms that allowed for negative comments to be made without 'squeezing' things to fit the terms. I thought it would be better to have one theme that all of these comments could go under. I decided to look through the other data before finalising this though.*

- *Next, I looked at the transcripts of the email interviews that were sent to student questionnaire respondents who provided contact details and agreed to answer a few more questions. There was hardly any information that corresponded to the hierarchy terms, so I left all these alone and decided to move on to the face-to-face interviews.*

- *It was evident that the transcripts contained far more detailed information than the rest of the data, and I found that many sections could be assigned more than one set of codes and classified under different themes. I made preliminary notes on 2 of these then went back to the student questionnaires.*

- *I decided to add a new theme into the hierarchy – PERCEIVED PROBLEMS WITH EIS. I made 'students' a sub-theme because I was dealing with the student questionnaires and intended to add 'academics' and 'library staff' when I moved on to coding the rest of the dataset.*

- *Following the meeting, I added the new provisional theme – I realised that many comments did not fit the existing terms and I didn't want to 'squeeze them in' as it felt like I would be distorting or manipulating the data. I emailed the new theme to … it was fine, so I added it to the hierarchy. I had been reassured during the meeting that the initial hierarchy was a prototype, and we were looking to make the terms fit the data rather than the other way round. Clearly, the new theme is based on my own personal interpretation of what needs to be added and others may not agree with my choice of words or concur with my interpretation of the meanings of the responses.*

- *I responded to an email received a couple of days before from …, asking me if I would make an Excel spreadsheet to put the coded data into so it could be moved into the web toolkit. I emailed her back saying I would have a go.*

- *Finished manual coding of student questionnaires.*

- *I spent the next few days playing around with how I would allow for the fact that many comments, especially those in the interview transcripts, related to more than one theme, and how these would be entered into the spreadsheet. I decided that I would create columns for theme + sub-theme, but just write the mini-themes in brackets after the quotes because this would make the spreadsheet less complicated and a bit more of a manageable size.*

- *Since then I've been coding the interview transcripts and entering the data from the interviews and questionnaires into the spreadsheet. This hasn't gone as quickly as I thought it would because this is really time-consuming! Also, I decided that at the same time as doing the spreadsheet and manually coding the hard-copy questionnaires, I would highlight the corresponding sections of the transcripts on floppy disk (these are the same as the paper ones).*

4.2.3 RE-PRESENTATION AND EXTENSION OF TOOLKIT CONTENT

Preparing data for presentation in the Toolkit has consisted of the following steps:

- Use the **classification** scheme to organise a sample of qualitative evidence from fieldwork into appropriate chunks for populating the Toolkit;
- Each **chunk** consists of a context setting statement to support the quotation taken from the fieldwork data;
- **Metadata** is attached to each chunk to indicate sector (HE/FE), discipline, category of respondent (academic staff, LIS staff, student, institutional manager).

In order to use the searchable database, which is populated with sample data for one discipline (Law) at HE fieldwork sites, toolkit users are asked to proceed as follows:

Step 1. Familiarise yourself with some context-setting information about the JUBILEE project, and the rationale underpinning the Toolkit.

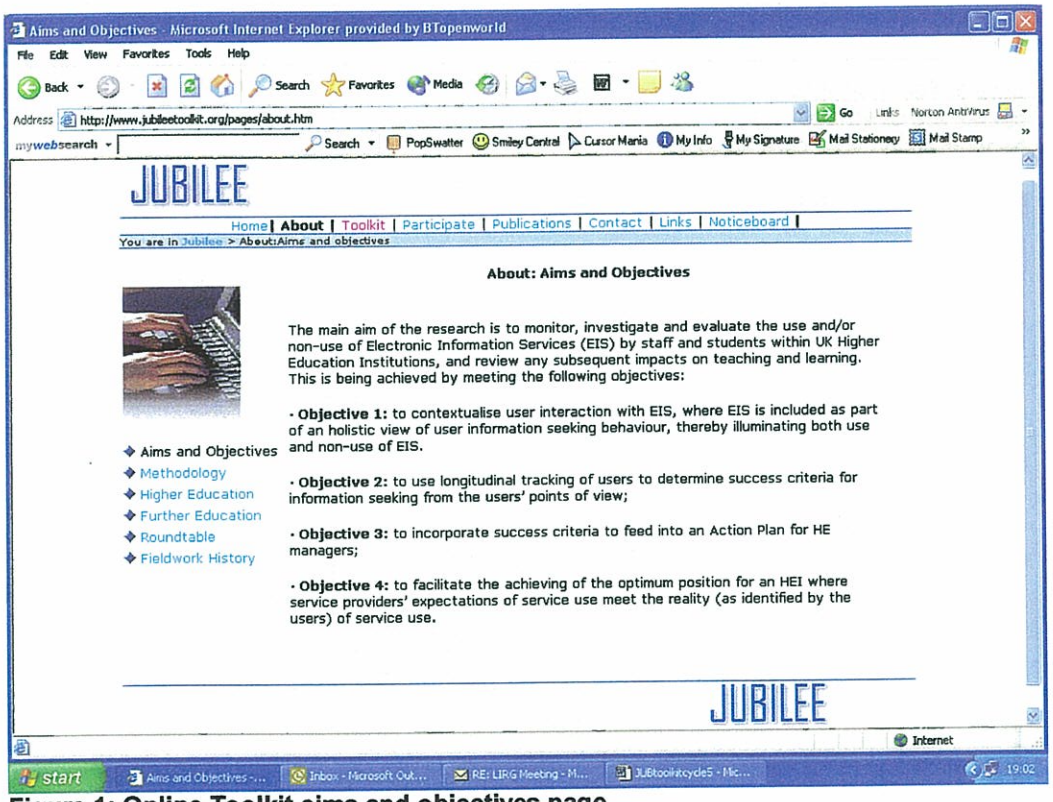


Figure 1: Online Toolkit aims and objectives page.

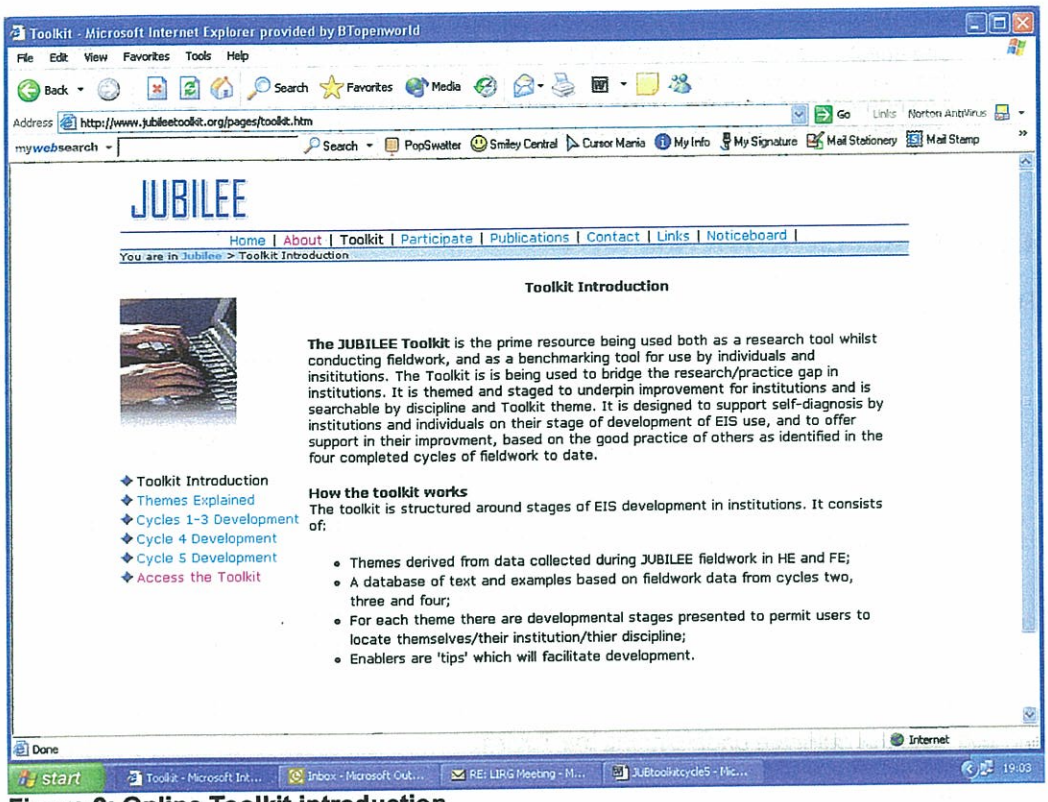


Figure 2: Online Toolkit introduction.

Step 2. Familiarise yourself with the organisation of the Toolkit. Themes and development stages are described, and provide the building blocks for searching the database and benchmarking your own activity.

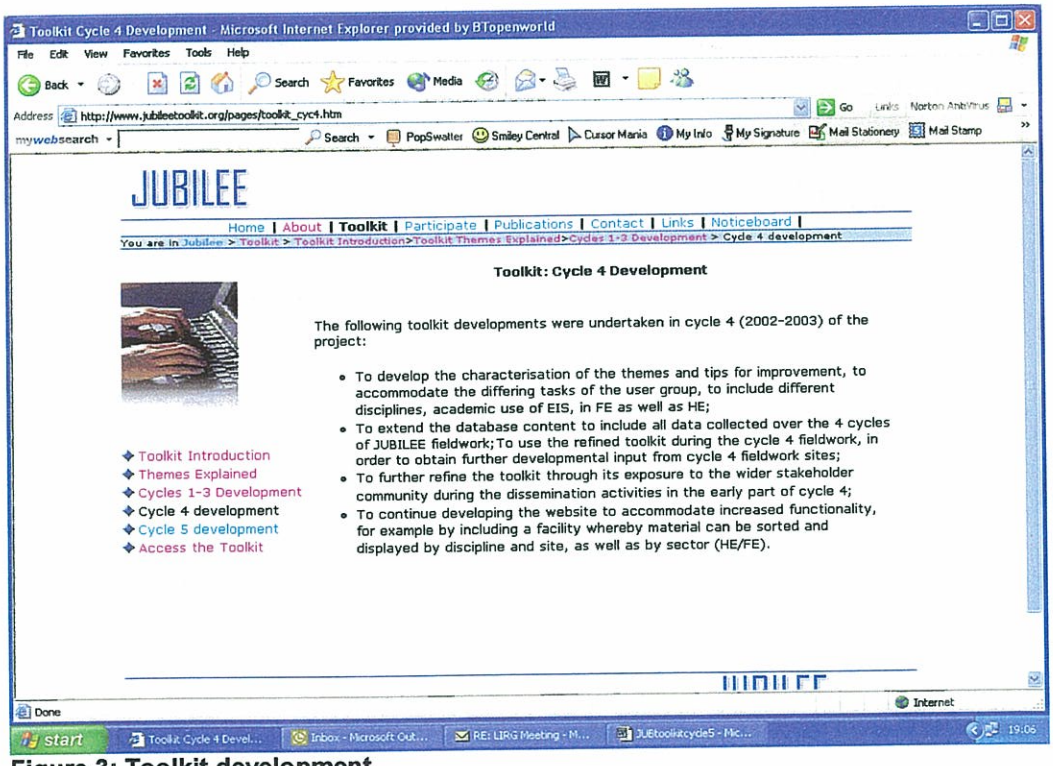


Figure 3: Toolkit development.

Step 3. Design your search strategy, by answering the following questions:

- Are you interested in HE, FE, or both?
- Will you search by theme, stage, discipline, or all of these?
- Prioritise – where will you start?

Step 4. Example use of benchmarking procedure (e.g. Terms: HE, Law):

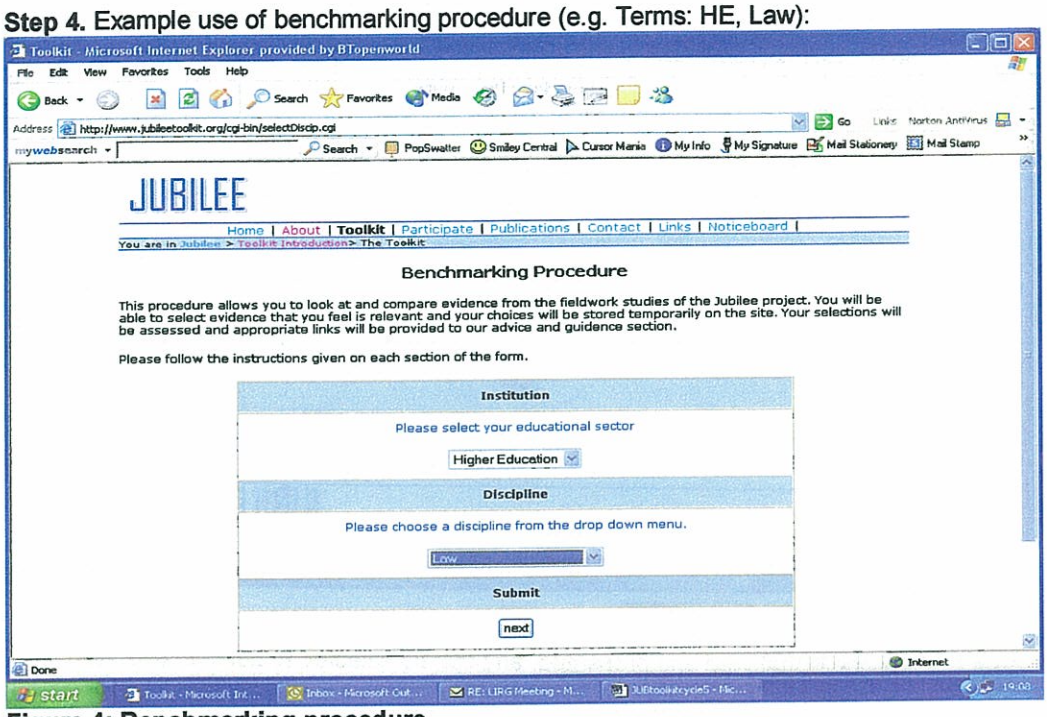


Figure 4: Benchmarking procedure.

Then choose from the following - Stage (Congruence), Theme (Liaison), and Sub-theme (Internal communication):

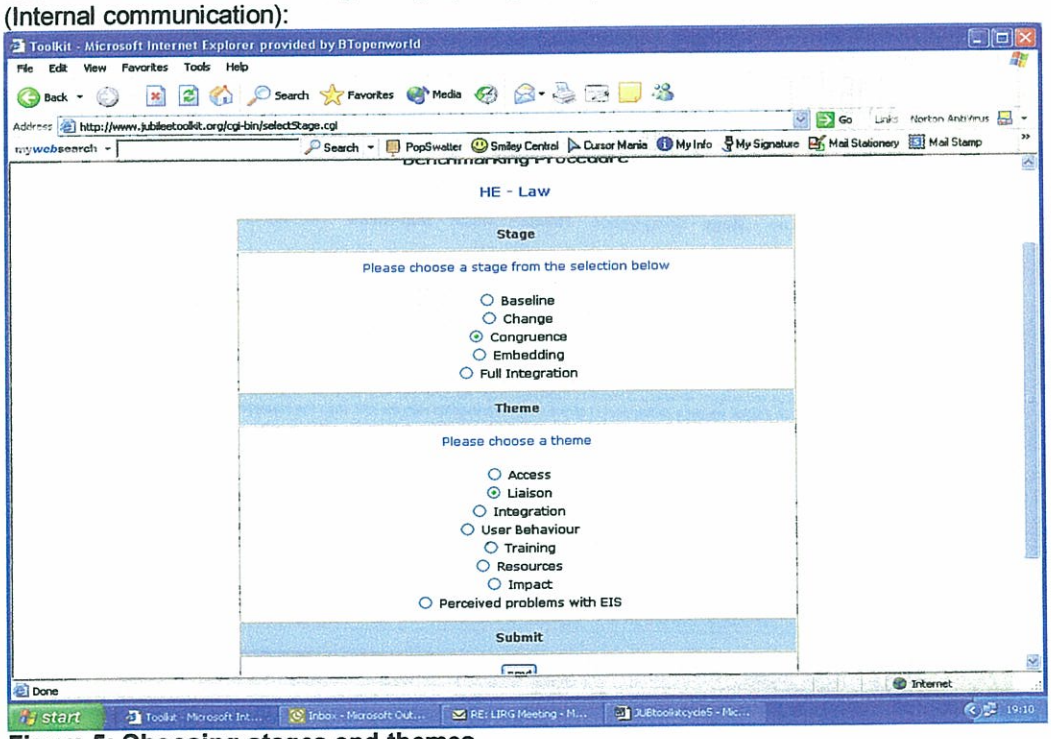


Figure 5: Choosing stages and themes.

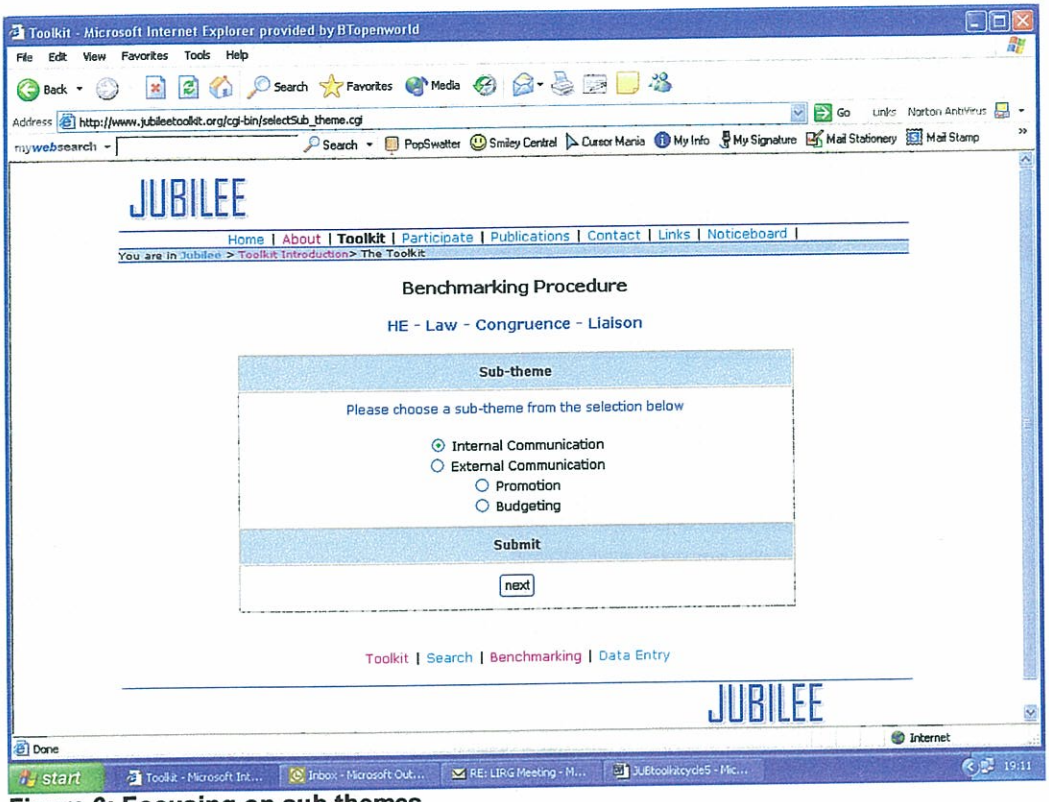


Figure 6: Focusing on sub themes

Step 5. Evidence is matched and presented, and can be selected to build up your own profile.

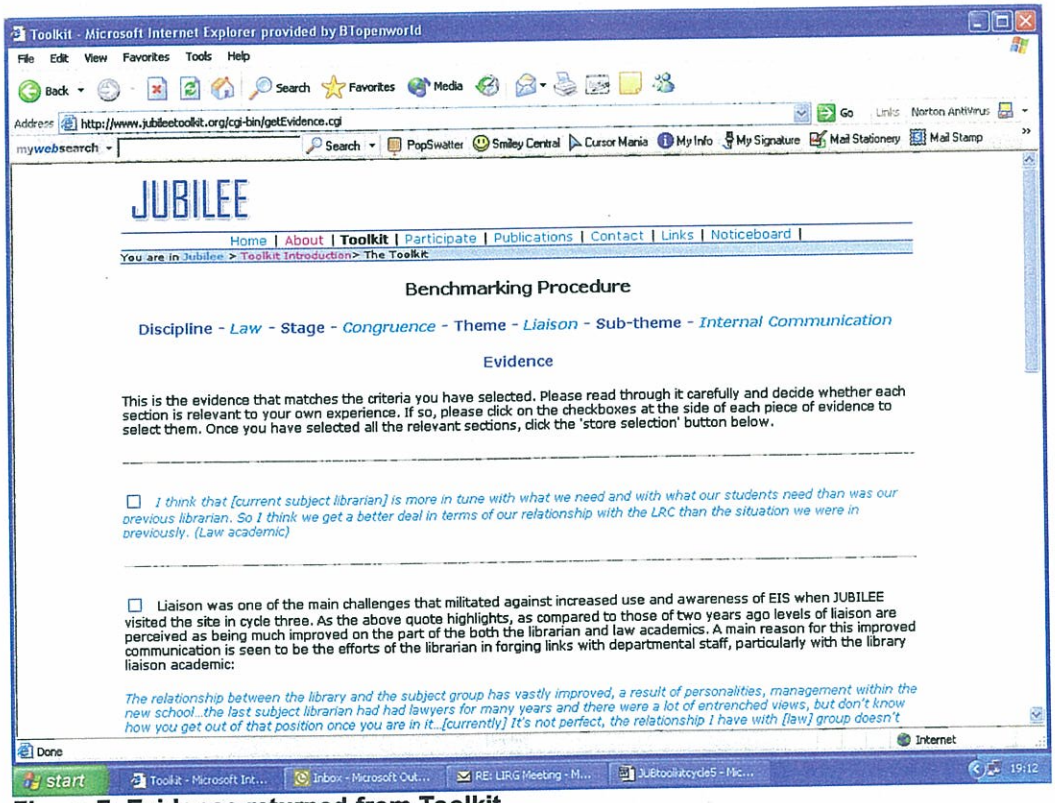


Figure 7: Evidence returned from Toolkit.

Step 6. Hints and tips are then displayed to support moving forward to the next stage of development.

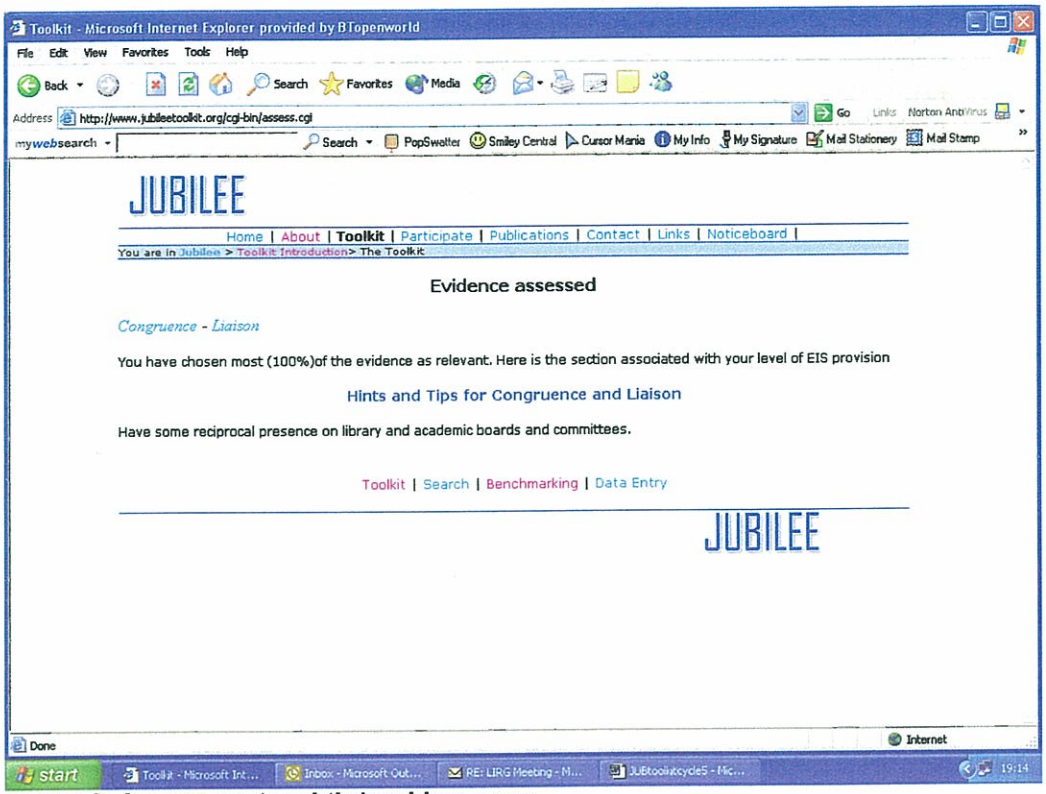


Figure 8: Assessment and tip/enablers page.

4.2.4 TOOLKIT USE AND IMPACT IN INSTITUTIONS

In addition to and to supplement Toolkit evidence and use, the website also displays example impact evidence from institutions. The Toolkit has been used to monitor the development of EIS in institutions by discipline and by Toolkit theme and stage. This evidence is displayed using graphical means, and shows users how they might use this technique. Full exposition of use of the Toolkit themes in fieldwork is found in revisit summary.

4.2.5 DISSEMINATION

The following cycle 5 publications have highlighted the Toolkit:

1. Linda Banwell and Graham Coulson, *Users and user methodology: the JUBILEE Project,* The New Review of Information and Library Research, Volume 9, Number 1, December 2003, pp97-110
2. Graham Coulson, Susan Heaford, Gayle Haswell, Simon Gordon, Linda Banwell, and Kathryn Ray, *'Enabling the electronic information user in UK further and higher education. Further findings and reflection from the JUBILEE project'* LIDA (Libraries in the Digital Age) 2004, under Theme 1: Human Behaviour in Digital Libraries: Human Information Behaviour and Competences for Digital Libraries. Wed 26th May 2004, Dubrovnik, Croatia.
3. Graham Coulson, Linda Banwell and Gayle Haswell, *'The Impact of JUBILEE on Institutions.'* EVALUED Conference, Wed 16th June 2004, Birmingham to be published in a special issue of VINE: The Journal of Information and Knowledge Management Systems.

4.3 FUTURE TOOLKIT DEVELOPMENTS

To enhance and complete the Toolkit, input is needed in order to:

- Populate it more fully with data;
- Complete the functional up-grade in order to move the Toolkit from a prototype to a fully functioning service;
- Keep the data refreshed through up-dating with a team of institutions;
- Build a learning capability into the Toolkit;
- Refine terminology and procedures in line with evaluative feedback on the Toolkit.

5. EVIDENCE FROM CYCLE 5 JUBILEE

5.1 ROUND TABLE STUDY

5.1.1 AIM OF THE ROUND TABLE

The primary intention of the round table strand of the project was to identify the way in which evidence based practice can be guided by the knowledge acquired by the MEUB Framework over the past 5 years. The purpose of the round table was to provide a foresight function, giving formative input into the project to assist in the early identification of trends. The objective of this strand is to determine what the JISC stakeholders would like from the MEUB Framework and therefore what role the JUBILEE evaluation activity can play in future development.

Definition of Delphi Study and use of modified Delphi technique
The purpose of a Delphi is to 'obtain the most reliable consensus of opinion of a group of experts...by a series of intensive questionnaires interspersed with controlled opinion feedback' (Dalkey & Helmer). Developed in 1950s at the Rand Corporation, a Delphi gathers a consensus of 'expert' opinion with the purpose being to forecast future trends. A modified Delphi technique was applied to this strand of the project in order to gather expert opinion but it was felt that the process would benefit from face-to-face discussion, this was the only major modification to the standard Delphi approach:

- only experts used on the panel
- all data collected in writing
- systematic attempt to produce a consensus
- three rounds are used

Composition of the Round Table
Round Table membership consisted of expert representatives from a variety of Institutions and organisations, all involved in some way with education, the majority were experts in Information Science.
Those areas represented were:

- Chartered Institute of Information and Library Professionals [CILIP]
- Further Education Resources for Learning [Ferl: BECTa]
- Further Education:
  - Academic
  - Library Services
  - Learning Support
  - Management
- Higher Education:
  - International & national
  - Academic
  - Library Services
  - Learning Support
  - Management
- Information Science Research Institutions
- Joint Information Systems Committee [JISC]
- Learning and Skills Development Agency [LSDA]
- Office of E-envoy: Central Government

Modified Delphi Process

ROUND 1	ROUND 2	ROUND 3

Round table members identified.	Synthesis of first questionnaire sent to all members	Synthesis of face to face meeting sent to all members
	Members provided with a detailed plan of the day and clear objectives of the meeting.	
First questionnaire	Face to face meeting; • Presentation by research team • 5 groups formed to discuss key themes and organize the topics identified in each theme as burning; smouldering; smoking. • 5 groups then discuss 'ways forward' for the MEUB Framework	Members asked to identify which topics would provide useful benchmarks for future performance.
Results of the returned questionnaires synthesized.	Results of the meeting synthesized.	Results synthesized to provide a list of topics that could be used to provide benchmarks for performance measurement of EIS delivery.

5.1.2 SUMMARY OF FINDINGS

The following findings are based on analysis of two rounds of the questionnaire and the face-to -face meeting of Round Table members, which occurred between the two questionnaires.

The synthesis of the initial questionnaire revealed a number of issues under the five Key Messages from previous JUBILEE research findings. Those key messages were:

- Access
- Liaison
- Training
- Integration
- User Behaviour

The subsequent debate by Round Table members examined those issues and ranked them as:

Burning - Likely to have immediate impact on service delivery.
Smouldering - May not be an issue yet for everyone but certainly will be in the near future.
Smoking - Likely to be a continuous background threat to the quality of service.

LIAISON

Burning Issues

- People; their willingness to take part in, or buy into these sorts of initiatives.
- Partnerships between academics, library/LRC staff, technical staff and administrative staff.
- Getting information skills further up the institutional agenda.
- Making information skills more interesting by integrating them into the curriculum
- Increasing interactive nature of the activity.
- Lack of time and competing priorities of academic staff.

Smouldering Issues

- Differences in the language between academic and library staff.
- Negative images of the library staff and perceptions of different roles.
- Growth in part-time, off-campus learning.

Smoking Issues

- More and better examples of library involvement in assessment.

- Increasing student and staff expectations

USER BEHAVIOUR

Burning Issues

- **Awareness**
- The design and the delivery of the course
- Awareness and attitudes of academic staff to EIS.
- The variable availability of EIS in different subject areas.

Smouldering Issues

- **Delivery & Skills**
- The accessibility of EIS by disabled and dyslexic students is an issue that needs careful consideration.
- Many of the information skills resources are already available, in my opinion, through the JISC IE to cater for students' different learning styles – all that is required is to pull all these together into one place so that people may "pick and mix" them.
- A skills framework.

Smoking Issues

- **Platform**
- Different learning styles and different 'ways of thinking' are not a particular issue in terms of take-up of EIS.
- Constantly changing information environment, for example, the changing subscription deals for electronic journals.
- Continuous change in the technologies not being fully operational across all information providers.

ACCESS

Burning Issues

- **Technology & Licensing**
- Licensing and authentication.
- Very significant support issues for those studying entirely off-campus.
- Connect costs of accessing EIS from off-campus.
- Location of access to resources.
- Cost of individual subscriptions [e-books]
- Student access to broadband (or even a computer) in the home or workplace.

Smouldering Issues

- **Authentication**
- Athens not available for all resources.
- Some journals only accessible on-campus.
- Problem exacerbated by academic staff themselves not being aware of the arrangements.

Smoking Issues

- **Support**
- Attitudes of library staff.
- Too much emphasis on students who are on-campus, using the libraries in person.
- Entry points to e-services need to be designed to take account of students who may never visit the University campuses.
- Back-runs of journals – most electronic journals only available for last few years.
- Students confused by sites where they have access to full text for some years of journal and only abstracts for other years.
- A student on a 3 year course will find that the local EIS is in a constant state of change and this is confusing and can be very time-consuming

TRAINING

Burning Issues

- Creating a strategic lead
- There needs to be the commitment of academic staff to the testing and development of skills.
- Development of an institution wide strategy driven from the top.
- Course design, programme specifications, progress files, etc all have a part to play.
- Focus on student needs
- Students will need different skills based upon their course of study – the skill requirement of courses varies.
- Recognise the diversity of skill level of HE students.
- Independent learning skills are crucial; This includes IT skills as well as other transferable/key/professional skills.
- More holistic thinking about the development of skills

Smouldering Issues

- Recognition that skills training is a lifelong process, needing constant updating as IT and systems evolve.
- Encouraging e-literacy
- Using VLE modules

Smoking Issues

- Danger that Information handling skills are overlooked with too much emphasis on the technology.
- The skill requirements of the curriculum need to be mapped.

INTEGRATION

Burning Issues

- All staff working to common agenda
- Get people in all sorts of roles engaged with it – and especially University and Faculty managers.
- VLES are both an opportunity and a barrier.
- Develop an information literacy framework that has been agreed by the University and negotiate with the Faculties on how it should be implemented.

Smouldering Issues

- VLEs in themselves do not lead to greater awareness of information literacy. But it is a great opportunity to integrate e-resources into students' learning – and the skills that students need to successfully exploit those resources
- Librarians need to be pedagogically knowledgeable and pro-active within this process.

Smoking Issues

- Culture and academic discipline
- Mutual respect across departments
- VLEs potentially very useful, however, finding the time to development those materials can be very difficult.

The face-to-face meeting of Round Table members concluded that some form of advisory service based on the key themes and JUBILEE Toolkit would be useful to enhance service delivery. Such an advisory service would need to be in a position to offer individual institutions access to a benchmark and measurement criteria to allow them to assess their current level of performance and what would be needed to improve that performance. The 5 Key Themes, which have emerged from JUBILEE over the past 5 years, were used as the framework for areas which could be enhanced by access to measurement criteria. The final synthesis produced the following structure for meeting current and future needs in informing EIS delivery;

LIAISON

- Managing change
- Encouraging communication between technical staff, administrative and library/LRC staff.
- Encouraging commitment of academic staff to EIS

- Investment in robust infrastructure
- Increasing range of EIS and number of different EIS accessible via Athens
- Integrating Information Skills into the curriculum and increasing interactive nature of the activity.
- Getting information skills further up the institutional agenda.
- Project management guidelines in implementation of technology.
- The purpose of EIS Champions
- Managing student and staff expectations
- Strengthening links between HEIs and schools/FE (supporting transitions)
- Student support

USER BEHAVIOUR
- The design and the delivery of courses
- User profiling
- Awareness and attitudes of academic staff to EIS
- Dealing with change in the technologies
- EIS availability in different subject areas.
- The accessibility of EIS by disabled and dyslexic students
- A skills framework

ACCESS
- Licensing and authentication.
- Attitudes of academics and library staff
- Design of entry points to e-services
- Cost of individual subscriptions e.g. electronic books
- Continuity
- Student access to broadband (or even a computer) in the home or workplace.
- Academic staff awareness of the arrangements eg for ATHENS accounts.

TRAINING
- Focus on student needs
- Creating a strategic lead
- Mapping the skill requirements of the curriculum
- Independent learning skills
- Holistic development of skills.
- Skills training as a lifelong process

INTEGRATION
- All staff working to common agenda
- Involvement of University and Faculty managers
- Demonstrating the benefits of EIS
- Development of an information literacy framework at University level
- Librarians need to be pedagogically knowledgeable and pro-active within this process.
- Integration of e-resources into students' learning
- Using assessment to include quality resources.
- Pedagogical knowledge to enable library staff to be pro-active

SUMMARY

The Round Table was established with the intention of creating an informed and knowledgeable group from across the sector. This group was then tasked with the role of forecasting future developments in EIS delivery and the implications these developments are likely to have for service providers and users. The main forecasts that emerged from this investigation were;

- Liaison across sectors and within individual institutions is vital;
- Robust infrastructures need to be developed within individual institutions and across sectors. This includes HE, FE, service providers, subscription agents and publishers.
- Understanding the user and their needs is essential;
- Development of a generic Information Skills framework that can be adapted at a local level.
- Academic and library staff should identify student needs at a programme level.
- Providing open access to all staff and students will require cooperation from all stakeholders;
- Licensing and authentication needs to become streamlined, publishers and subscription agents will have a role in this development.
- Integration of EIS through VLEs, providing users with a single entry point and a common interface.
- Training will need to become integrated into the curriculum rather than a stand alone entity and accepted as a life long process;
    - Academic and library staff should develop integrated training programmes based on an Information Skills framework.
- Integration of Information Skills and EIS into academic departments
- Institutions will have to develop EIS strategies that are understood and driven by top level management.
    - All institution staff / departments need to be working to a common agenda.

During the various rounds of the study it became very apparent that evidence gathered throughout the five cycles of the JUBILEE project had a significant part to play in that development. The Round Table concluded that the JUBILEE Toolkit provided an ideal framework to offer service providers with the benchmarking and measurement criteria needed to monitor and develop EIS.

5.2 HE REVISITS SUMMARY

5.2.1 AIMS AND RATIONALE

In addition to the main ongoing fieldwork activity of the JUBILEE project, as part of the longitudinal study of EIS it was proposed to attempt to further map the progress and changes in EIS development within HE. As a pilot exercise in the 3rd cycle of fieldwork it was decided to revisit sites from the first cycle of JUBILEE research to determine whether evidence existed of any changes in EIS and information seeking between the first JUBILEE reporting period (1999-2000) and the 3rd cycle (2001-2002). Following a successful pilot this activity has been extended over the past two cycles, this year with an aim to revisit library services and one of the academic subject disciplines researched originally. In cycle 5 fieldwork has been successfully undertaken at four sites, with JUBILEE revisiting:

- Two sites first researched in cycle 3 (2001-2002) to document change, focussing on the Law subject discipline;
- Two sites from cycle 1 (1999-2000) of JUBILEE for a second time, following an earlier revisit in cycle three, to further longitudinally monitor and track EIS development and use with particular emphasis on the Business subject discipline.

5.2.2 REVISIT ACTIVITY DEVELOPMENT OVER CYCLES 3-5

Supplementary to the main ongoing fieldwork activity in cycle three, as part of the longitudinal study of EIS JUBILEE proposed to gain further longitudinal data by undertaking small scale revisits of case study sites from the first cycle of JUBILEE to determine whether evidence existed of any changes in EIS and information seeking between the first and the current reporting periods. Library and academic staff from sites were asked to participate in telephone interviews. Interviewees were asked to reflect on the evolution of EIS provision and use by

charting and analysing their perceived past and current positions using the generic developmental stages mapped out in the JUBILEE Toolkit, using it to indicate both the perceived original and current stage of EIS development at their institution. In addition to attempting to map EIS progression using the pilot toolkit, academics and librarians at the site were able to reflect upon a summary of the key findings as reported from their institution in the first cycle of JUBILEE. Contemplating these allowed greater detail to emerge, highlighting examples of significant areas that had sustained or hindered EIS development at the institution. This data was then plotted to identify and establish areas of stasis and change.

A main intended objective of the revisit exercise in cycle 3 was to gain feedback and evaluation from academics and library staff as to the usefulness and validity of the toolkit. There was a positive response from research respondents regarding the use of the toolkit framework to measure changes in EIS attitudes, provision and use:

Involvement in the project is a good way of reflecting on these things for a little while, what we are doing, so it is good for us to be involved too. (Library staff)

Helpfully a number of constructive comments and developmental issues also arose, which have informed the future development of the Toolkit.. First it was observed that the 5 development stages were perhaps too well defined and too arbitrary, with the development of EIS within academic institutions being much more a continuum:

I don't suppose any university of any size can ever get fully to 5 [Full integration], but you might say that on balance you are largely on 5 but there are still pockets of people at 4 [Embedding]. (Library staff)

For example certain interviewees placed themselves 'between stages 2 and 3 at present. Secondly a number of respondents found that they were at one stage of EIS development in certain areas (e.g. skills training) but at a different level in another (e.g. remote access):

It is quite tricky really, because I can sometimes look at one bullet point and think, 'yeah that's where we are' and then I wasn't so sure on the next one. (Library staff)

5.2.3 METHOD FOR CYCLE FIVE REVISITS

In order to meet the aims and rationale of the revisit activity, research has been carried out using the following instruments:

- **Interview prompt sheet**

  A preparation sheet was sent out in advance of the arranged interviews. This single sheet offered a brief, bullet pointed summary of the five thematic issues that would be discussed in the course of the telephone interview.

- **Semi structured telephone interview**

  Face to face or telephone interviews were undertaken with key informants from LIS and one original discipline at revisit sites. Interviewees were asked to comment on their perceptions of EIS development at their institution, with reference to original JUBILEE findings. The bullet pointed summary acted as a springboard for additional supplementary questions and dialogue regarding EIS provision, use and awareness.

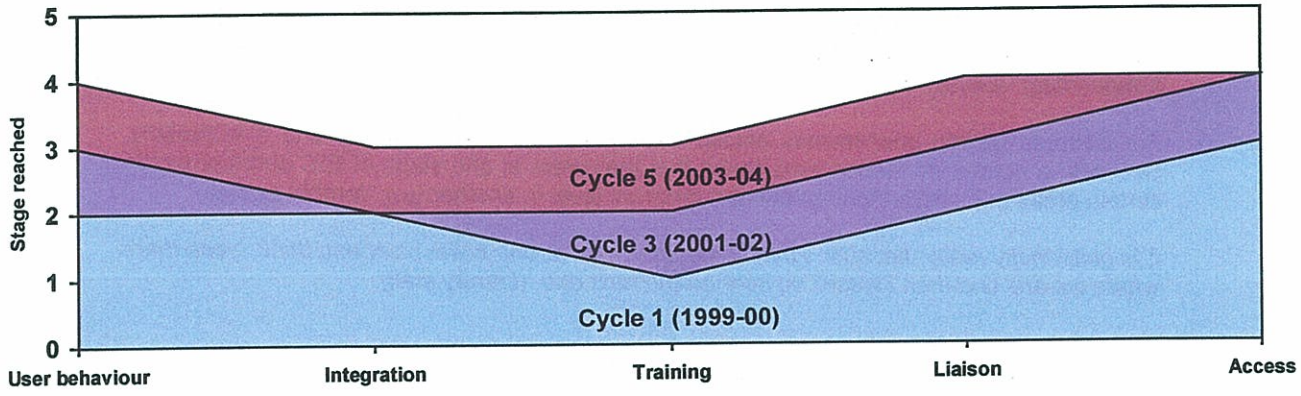
Originally it was intended that by reference to the five thematic areas associated with EIS provision and use, and - for each theme - five potential stages of development, respondents would feel less constrained, and more able to identify their service, discipline or institution as it stands in relation to different aspects of EIS development. Interviewees were asked to

examine the five thematic areas and to indicate the stage *they perceived* to offer the 'best fit' with reference to their own institution.

In early piloting of this approach however, it was found that this technique was limited because it required respondents to have actually read the 'five EIS development themes', understood them, and had time to complete the task set of them ahead of the telephone interview. In practice it was found to be difficult to ensure that such was the case, and it remained unfeasible in terms of time for this task to be undertaken during the course of the interview itself. From cycle four it was decided that pragmatically it was more appropriate for the research team themselves to chart the current stages of development for each interviewee, by mapping responses to each thematic issue onto the toolkit, and this was the process followed in current cycle five revisit sites.

5.2.4. LONGITUDINAL FINDINGS FROM CYCLE 5 REVISIT ACTIVITY

5.2.4.1 EIS PROGRESSION BETWEEN JUBILEE CYCLES 1, 3 AND 5 (SITE B AND C)



	User behaviour	Integration	Training	Liaison	Access
Cycle 1	Printed resource use prevalent among students, but with greater use and awareness of EIS among some groups of users	Awareness of appropriate EIS developing, and localised use of EIS in individual courses.	EIS skills training fragmented within the institution, with no formal statement of responsibilities on the part of business academics and little user needs assessment.	Limited communication between library staff and academic staff, but relationships being strengthened.	IT infrastructure almost adequate to meet needs of most users, and strategies being developed to improve EIS access both on and off campus. Space restrictions for PCs in library area.
Cycle 3	Use of both print and EIS material, increased IT literacy, but limited awareness of EIS other than Internet search engines	Little change in the level of EIS integration in business courses. Awareness of appropriate EIS developing, and localised use of EIS in individual courses.	EIS training available, with increased 'joined up' thinking regarding how provided and who provides it.	Some reciprocal presence on library and academic boards and committees, some library involvement in business students' induction.	Access to EIS facilitated via multiple avenues, enabling users to use EIS both on and off campus. Extensive opening hours of IT areas. 24-hour access piloted.

Cycle 5	Increasingly integrated use of different media, and a critical awareness of EIS married with the acquisition of information seeking skills	Maintained current awareness, and informal strategies being developed to embed EIS. Increased use of EIS in courses with development and use of VLE at site, however innovative use of EIS and VLE localised.	EIS training available, with library staff involved in skills training embedded within business courses. Effectiveness of skills training monitored, but more work to be done in enabling online skills development.	Effective partnerships in place between students, academic and library staff, with the potential for improved and innovative EIS provision and use through collaboration with Learning and Teaching Enhancement Unit.	Good standard of access maintained, with EIS access available both on and off campus. Extensive opening hours of IT areas, with need for widened 24 hour access provision in process of being addressed.

Figure 9: Schematisation of EIS progression at Site C over cycles 1, 3 and 5

At site C all business academics and library staff believed that there had been progression from the existing situation in cycle one over the intervening four years, with notably the improvements to EIS, the development of the institutional VLE, and greater institutional leadership and strategy in the sphere of IT having led to a culture more receptive to EIS provision and use. Progression at the site, charted in terms of each of the five JUBILEE Toolkit themes can be seen in figure 2, above.

Considering the overall picture, it was maintained that in the first cycle institutional EIS provision was characterised by moving from a ***baseline*** position (JUBILEE developmental stage 1 where EIS was not a priority, to one of ***change*** (JUBILEE developmental stage 2) where - by and large - there is recognition of a need to change to embrace the opportunities offered by EIS; this culture exhibited the following characteristics:

- EIS user needs, objectives, service targets established;
- On-going methods of satisfying needs etc. devised e.g. working parties, informal strategy document, service evaluation (surveys, staff involvement);
- Resource use monitored;
- Relationships between library and discipline areas being strengthened.

From revisit research in the third cycle progression had been made in most areas, although there was disagreement between business academics and librarians, and it on average believed that progress in developing and embedding provision, awareness and use of EIS at the site had advanced towards the third developmental stage of ***congruence***. Business academics believed at the very least that the vision of institution regarding EIS is beginning to be implemented, with:

- Provision and effectiveness monitoring of EIS skills training;
- Establishment of institution wide policies and standards;
- Collection and evaluation of statistical and qualitative data.

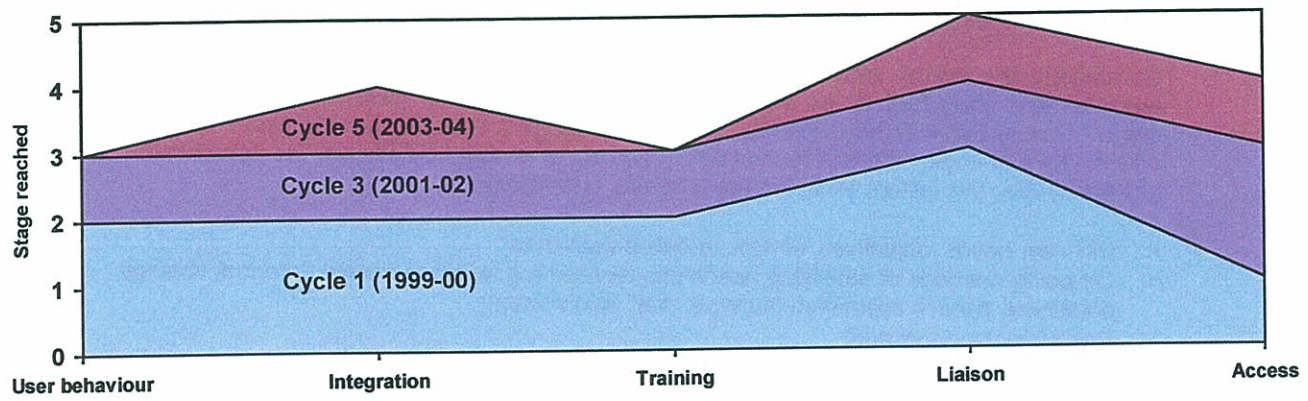
Library staff however believed that there had been less advancement in terms of developing EIS at the site. Reviewing the maturity toolkit it was felt that overarching strategies on the part of the wider organisation in relation to EIS were not greatly evidenced at present, such procedures a typifying characteristic of developmental stage 3. It was felt that as of yet there was not widespread implementation of strategies and policies regarding EIS at all levels, and that while appropriate partnerships are developing it could not be said that that the use and embedding of EIS had been globally accepted as part of the HE teaching and learning culture, particularly on the part of some academic staff. It was however thought that such policies were not far from being instigated:

We are just not really any further forward than we were in 1999. I think the sticking point really is institution wide policies and standards. Institution wide policies we're nearing because, I think this may be what really helps you along isn't it, because we had a bad QAA for some of our courses, and we have become more involved with provision in partnership institutions. A follow on from that was one of the Deans wanted to look at distance learning so it may be that institution wide policies will emerge from all this. (Library staff)

I think we are monitoring the effectiveness but perhaps not as systematically as we could do. We haven't yet got institution wide policies and standards but I suspect we will be getting towards those. (Library staff)

By the current cycle 5, such strategies and policy are largely in place, with Blackboard being used in the business discipline, as it is across the institution. The institution could now be typified as being at the stage of **embedding** EIS provision and use, where appropriate partnerships are developing from congruence and are accepted as part of the culture. Characteristics of this stage include:

- User education and monitoring, restructured framework for needs assessment;
- Partnership between students, researchers and staff;
- Widespread implementation of strategies and policies;
- Strategies to ensure meeting of targets.



	User behaviour	Integration	Training	Liaison	Access
Cycle 1	Printed resource use prevalent among students, but with greater use and awareness of EIS among some groups of users	Awareness of appropriate EIS developing, and localised use of EIS in individual business courses.	EIS training available, with increased 'joined up' thinking regarding how provided and who provides it.	Good levels of liaison in evidence between business and library staff. Some reciprocal presence on library and academic boards and committees.	Inadequate business student to PC ratio, with limited scope for remote access to EIS.
Cycle 3	Use of both print and EIS material, increased IT literacy, but limited awareness of EIS other than Internet search engines	Continued use of EIS on some business courses, maintained current awareness, and informal strategies being developed to embed EIS within electronic platforms for teaching and learning.	EIS training still high on business and library agenda with collaboration between both sections in terms of delivery. Low attendance at training sessions. Provide and monitor effectiveness of skills training.	Effective partnership between students, researchers academic and library staff. Training provided collaboratively, and personal relationships reported as being strong between departments.	IT infrastructure adequate to meet needs of most users, and strategies being developed to improve EIS access both on and off campus.

Cycle 5	Little change evident, with continued use of 'hybrid library' materials, with use of both print and EIS material, increased IT literacy, but a continued reliance by students on Internet search engines reported by academics and library staff.	A wide awareness of EIS evidenced by business academics, and embedding into courses and curricula by most academics. Alternative means often used in favour of site VLE as result of past strategic issues.	No major shift evidenced. EIS training still viewed as important and collaborative arrangements for student training in place. Persistent low attendance at training sessions. Need remains to further consider and develop online info skills materials mooted in cycle 3.	Ongoing partnership and collaborative working in place to maintain and improve EIS awareness/use among business staff and students.	Good standard of access maintained, with EIS access available both on and off campus. Extensive opening hours of IT areas, with 24 hour access provided. Need for more equality in IT provision between university sites identified.

Figure 10: Schematisation of EIS progression at Site B over cycles 1, 3 and 5

Similarly at site B, the other revisit studied at intervals over the span of the JUBILEE project, all business academics and library interviewees demonstrated ways in which there had been progression from the cycle one EIS situation over the intervening four years, again with notably the improvements to EIS, the development of the institutional VLE, and greater institutional leadership and strategy in the sphere of IT having led to a culture more receptive to EIS provision and use. Progression at the site, charted in terms of each of the five JUBILEE Toolkit themes can be seen in figure 2, above.

Considering the overall picture, it was maintained that in the first cycle institutional EIS provision was characterised by moving from a ***baseline*** position where EIS was not a priority, to one of ***change*** (developmental stage 2) where - by and large - there is recognition of a need to change to embrace the opportunities offered by EIS; this culture exhibited the following characteristics:

- EIS user needs, objectives, service targets established;
- On-going methods of satisfying needs etc. devised e.g. working parties, informal strategy document, service evaluation (surveys, staff involvement);
- Resource use monitored;
- Relationships between library and discipline areas being strengthened.

From revisit research in cycle 3 it was on average believed that progress in developing and embedding provision, awareness and use of EIS at the site had advanced, or was about to progress, to the third developmental stage of ***congruence***. At this stage of EIS development the vision of institution regarding EIS is beginning to be implemented, with:

- Provision and effectiveness monitoring of EIS skills training;
- Establishment of institution wide policies and standards;
- Collection and evaluation of statistical and qualitative data.

By the current cycle 5, such strategies and policy are largely in place, however in terms of the VLE past issues and problems have predicated against widespread use in the business discipline. The institution could now be typified as moving towards being at the stage of **embedding** EIS provision and use, where appropriate partnerships are developing from congruence and are accepted as part of the culture. Characteristics of this stage include:

- User education and monitoring, restructured framework for needs assessment;
- Partnership between students, researchers and staff;
- Widespread implementation of strategies and policies;
- Strategies to ensure meeting of targets.

Once again as in site C greater leadership and improved collaboration between central and other departments at the site was seen as being need in order to diminish of the present barriers to EIS use, which will help facilitate further the great efforts of both library and business lecturers to improve EIS provision and use.

5.2.4.2 EIS PROGRESSION BETWEEN JUBILEE CYCLES 3 AND 5 (SITE A AND D)

From revisit research in this fifth JUBILEE cycle it has been found that progress in developing and embedding provision, awareness and use of EIS had been made at both of those sites first visited in cycle 3. Law was the discipline focussed on for these revisits, and at both sites changes were noted in law academics' and students' use of and attitudes towards EIS. The schematisation below sketches the progression in terms of the level of EIS development between Cycle 3 and cycle 5 at site A, based on analysis and synthesis of qualitative data from library and academic staff respondents using the JUBILEE Toolkit:

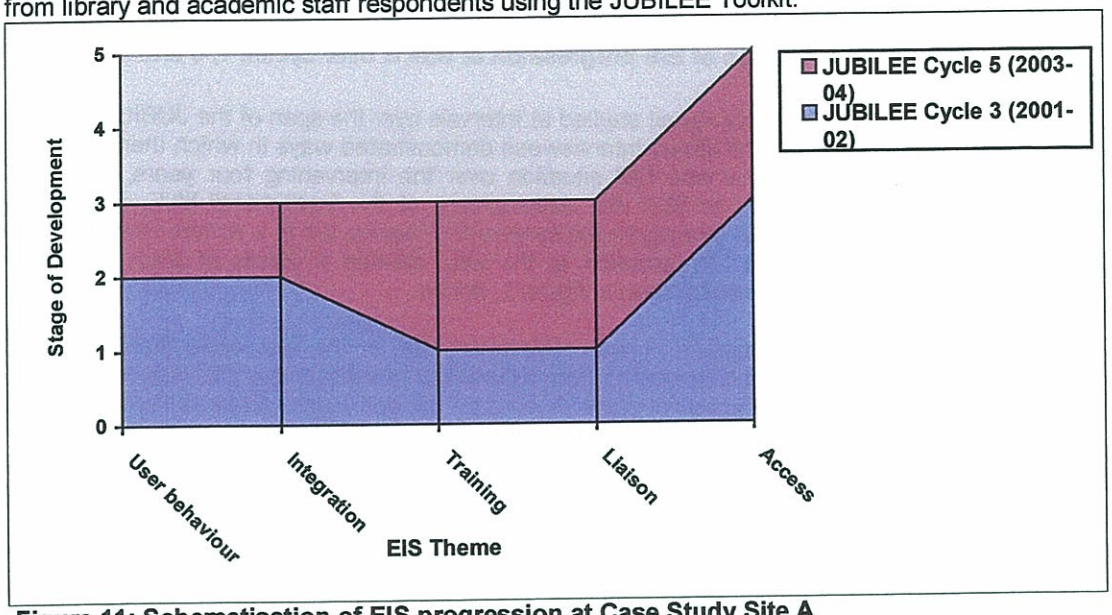


Figure 11: Schematisation of EIS progression at Case Study Site A

At the institution all law academics and library staff believed that there had been progression within the discipline from the situation prevalent in cycle 3 over the intervening two years. Given the data in the original case study report it was recorded that the law department could be typified as being at stage 2 of the JUBILEE toolkit, that of *'change'*. The situation typical of *'change'* is one where - by and large - there is recognition of a need to change to embrace the opportunities offered by EIS, and at the site this culture had exhibited the following characteristics:

- EIS user needs, objectives, service targets established;
- On-going methods of satisfying needs etc. devised e.g. working parties, informal strategy document, service evaluation (surveys, staff involvement);
- Resource use monitored;

On average - given law and librarian interviewee responses - the present overall circumstances regarding EIS provision and use in law would appear to be best described as that of stage three, *'Congruence'*, the stage where the vision regarding EIS development is beginning to be truly implemented. EIS development, use and integration in the law discipline has improved considerably in the intervening two years between JUBILEE visits, a result of a number of factors including excellent access to IT and EIS, technological development of EIS and the VLE, the transition of the law section into a new school following restructuring, and not least the efforts of both law and library staff. In terms of each of the five individual thematic areas, as can be seen from the diagram, each EIS issue had developed between the time of the first case study research and the present cycle:

- **User behaviour.** Academic and student use of EIS is at the toolkit stage 3. With law staff and students there is use of both print and EIS material, with increased familiarity and

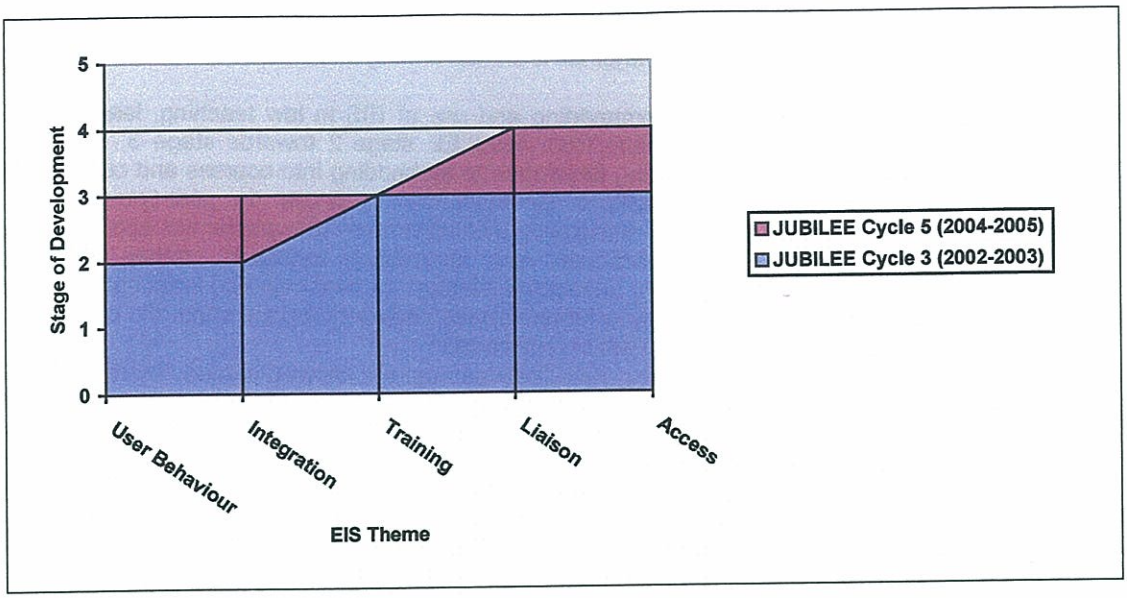
reliance on electronic information. The perception persists however that awareness of EIS other than Internet search engines is limited among students;

- **Integration of EIS.** Further embedding and use of EIS in law teaching, learning and assessment has seen movement from JUBILEE stage 2 towards stage 3, this latter stage typified by strategies being developed to embedding into courses and curricula by groups of academics. The uptake of the Blackboard VLE over the past two years has had a significant effect on EIS integration, although many law academics appear to use Blackboard mostly as a noticeboard and information repository, rather than fully exploiting its potential as a new, interactive platform for teaching and learning. From the intentions and enthusiasm noted of interviewees however it appears that the opportunity for advancement in this regard will be embraced;
- **Training.** During the intervening years between the two periods of study there has been progress and improvement in terms of EIS training and user education, from a rather fragmented situation in cycle 3 with little coherence to information skills development within law courses or agreement as to training responsibilities. There has been a move towards a more 'joined up', responsive developmental stage 3 approach in the current year. EIS training is available via the library, and there is a much heightened awareness on the part of law academics as what is provided. Encouraging attendance at library user education sessions remains problematic, however it was observed that much had been attempted in terms of encouraging greater joined up thinking between departments as regards student skills improvement; library staff have communicated and collaborated with law staff and students in order to improve the effectiveness of EIS skills development and, as a consequence, EIS use;

- **LIS/ Academic liaison.** From a rather limited relationship in cycle 3, with little communication between law lecturers and library counterparts, following restructuring and new staffing the degree of liaison between the library and law has advanced markedly, with interviewees expressing the relationship in much more positive terms. Currently at development stage 3, with good formal and informal partnership academic and library respondents;

- **Access**. It should be noted that in cycle 3 of JUBILEE, access to IT and EIS at the site was already well advanced, having been given high profile and priority by library services. User access to EIS would now appear to be at a high level of development (stage 5). Access to EIS is facilitated via multiple avenues, enabling users to use EIS both on and off campus, and there are widened opening hours of IT areas. Continuously evaluated provision and access policies would appear to be helping meet the needs of EIS users, whether on campus or remote to it. Moves towards finding access solutions, including simplified authentication have also aided ease and speed of EIS accessing.

At the other law discipline cycle 5 revisit, site D, from revisit research in this fifth cycle it is believed that there has been some progress in developing and embedding provision, awareness and use of EIS. Progression has been marked in some areas rather than others. However, the progression has not been substantial enough to move up a stage in development although it is evident that in cycle 3 the institution was quite advanced in a lot of its EIS activity. The chart below illustrates the progression in terms of the level of EIS development between Cycle 3 and Cycle 5, based on analysis and synthesis of qualitative data from library and academic staff respondents using the JUBILEE Toolkit.



Given the data in the original case study report it was recorded that the Law department at site D could be typified as being at stage 3 of the JUBILEE Toolkit, that of *'congruence'*. The situation typical of *'congruence'* is one where - by and large – the vision of effective EIS provision and development is starting to be implemented and at the site this culture had exhibited the following characteristics:

- Provide and monitor effectiveness of skills training;
- Institution wide policies and standards established;
- Collect and optimise statistical and qualitative data.

Given the responses from Law academics and librarians the situation at the institution has remained as predicated by one librarian interviewee as *'not changing much'* [Librarian, site 3]. Therefore the institution has remained at stage 3 of EIS development that of 'congruence' as outlined below.

However, with the library and the law department there is evidence that positively suggests that progression towards stage 4 is being made in some themes. Liaison and access are particularly strong areas and as the graph above demonstrates have improved since the previous cycle along with user behaviour and integration. Training has remained at a progressive stage 3 but it is anticipated with the new opportunities afforded by the new VLE, Blackboard the next stage of progression will be easily achievable. The following typifies activity to be expected of stage 3 of EIS progression:

- **User behaviour**
  Law staff and students are using both print and EIS material, with increased familiarity and reliance on electronic information. The perception persists however that awareness of EIS other than Internet search engines is limited among students.

- **Integration of EIS**
  Improvement has been noted with the embedding of EIS into teaching and learning. Cycle 5 has noted that the IT champion within Law is taking a more pro-active role in promoting the use of EIS within teaching and learning. In addition it has been observed that the law curriculum has been influenced to a small degree as new topics such as cyber crime are introduced. The use of learning environments and web boards are also well integrated into teaching and learning processes

- **Training**

A 'joined-up' responsive approach to training continues at the institution with academics and librarians perceiving that the responsibility of information skills training falls to both parties. Although site 3 has excellent information skills training strategies and undertakes a range of activities, both librarians and academics felt that student awareness and attendance could be improved. There was a general feeling that sometimes training often falls on deaf ears.

- **LIS/Academic Liaison**
  This institution is exceptionally strong in the area of LIS/Academic liaison with law academics. The relationship is based on a formal and informal basis with a sound understanding of what the library can offer by way of support to the academics and vice versa.

- **Access**
  Access is another where there has been marked progress. The institution offers 24/7 access to IT services. Whilst PC provision in the library is limited solutions are being implemented to resolve the problem by providing laptop connectivity within the library. Continuous evaluation of access and user requirements is common practice at this institution.

5.2.4.3 REFLECTION ON HE REVISIT ACTIVITY IN CYCLE 5

Revisiting the disciplines of law and business at four sites in cycle 5 has revealed that much has been done to improve the quality of EIS provision and use over the past two years at both sites A and D in law, and over the past five years in business at sites B and C. At all sites and across disciplines however interviewees did note some areas were activity was currently underway, planned, or necessary; in terms of advancing the effective use and awareness of electronic resources some of the suggested key issues which may warrant further consideration include:

Theme	Points for consideration	Relevant case study
User behaviour	• Students should be encouraged by both academic and library staff to recognise the relevance of EIS to the furtherance of their studies, and future careers;	A, B, C, D
	• Capitalise on the enthusiasm and goodwill of 'enthusiast' academics for the use of EIS and IT, and encourage the 'championing' of EIS integration to other colleagues; Library and academic staff strive to develop an active role in the innovative, interactive use and integration of EIS into the Blackboard VLE;	A, B, C
	• As academic staff recommendation is integral to ensuring many students perceive EIS (or for that matter any information resource) as relevant or necessary to the furtherance of their learning or research, it is important that all staff are aware and understand the real benefits and real limitations of the EIS useful to their subject area so that no one group of students is disenfranchised;	B, C
	• Exploration of means to undertake needs analysis of new students to ensure that library staff, academic staff and students themselves are aware of information training needs;	B, C
Integration	• While over the past two years much has been done to improve institutional involvement in e-learning, nonetheless increased strategic direction and a unified policy for the embedding of EIS and IT into teaching and learning is seen as a desired aim;	A
	• Identify means by which lecturers could be given the time or opportunity to improve their understanding and use of VLE;	A, B, D
	• In the opinion of business academics the university needs to review its IT infrastructure and the sustainability of its roll-out programme to enable lecturers to better fulfil their own teaching and research;	B
	• Central university need to redress the existing fragmented approach to integrating IT and EIS into business courses, through greater leadership, 'joined up' thinking in relation to virtual learning, and consultation with the academic body as regards best meeting needs;	B
	• Business academics need to explore more interactive uses of WebCT through discussion boards, assessment and linking to appropriate library and external EIS at the direct point of student need;	B, D
	• Library staff need to continue work to ensure library services and the EIS they provide are embedded and established within a central location in the university's Virtual Learning Environment;	C
	• E-books should be exploited as a means of developing the profile of the library across the institution more so since the restructure that has reportedly left some library staff feeling on the periphery of institutional developments.	D

Table 22.1. Revisit points for consideration - Toolkit themes 1 and 2

Training	• Low student attendance at skills development sessions must continue to be tackled, possibly through greater integration of such user education into courses and curricula;	A
	• Work towards greater linkage between information skills training and EIS use into learning assessment;	A
	• The clear delineation of specific roles and responsibilities of different departments in relation to the training and development of students' IT and information literacy would be useful, particularly in the sphere of critical and evaluative skills;	A, C
	• EIS training needs of academic staff could be assessed, ensuring that tutors' needs are supported, and any information passed on to students via their teaching is reliable;	A, B, C
	• It was seen by respondents as important to continue the exploratory work underway in terms of unlocking the potential and usefulness of web-based training packages;	A, B, C
	• Disseminate through and across schools the extant examples of good practice in business regarding tying information skills training provided by the library into modules and assessment, to make EIS use appear relevant and timely to students;	B, C
	• Library services must continue to drive the 'information literacy framework' agenda, to encourage further development of a coherent university wide student training programme;	B
	• Training for academic staff on the issues of purchasing and licensing of electronic materials, especially e-books may help to strengthen relationships as well avoiding potential budgetary and access blunders. Alternatively, increase the profile and role of the IT champion by providing them with licensing and purchasing specific training if training can not be done on a wider level.	D
Liaison	• Library services continue to have an advocacy role to play in developing such a culture of awareness and acceptance of EIS in teaching, learning and research among all staff	A, C, D
	• Library services have a role to foster to encourage cross-departmental provision of both face-to-face and online training opportunities;	B, C
	• In addition to improved central direction, it would appear that continued communication and awareness raising are needed to encourage a 'joined up' approach to increasing online provision of EIS through the VLE on the part of both business and library staff;	B
	• Continue and sustain the effective new partnerships between academics, the library and the Learning and Teaching Enhancement Unit, ensuring and encouraging a 'joined up' approach to increasing online provision of electronic information through the VLE;	C
	• Strategies for more effective communication and raising awareness over e-book provision and its impact on budget and access between the library, IT services, academics and the major stakeholders at a strategic level must be further developed;	D
	• Library staff might be more pro-active in raising the e-book issues with the JISC to highlight the EIS needs of institutions with small budgets.	D
	• Library staff might also try to liase more actively with database providers to raise concerns over the level of study and the appropriate subject coverage.	D
Access	• Maintain the existing good provision of access to EIS services, both in terms of student to PC ratio and library provision, and work to improving access to, and awareness of, Learning Resource Centre provided EIS via the VLE;	A, B, C
	• Library staff need to continue to raise the awareness of service providers regarding the particular needs of the UK higher education marketplace, including effective and comparable monitoring statistics for EIS products;	A, D

Table 22.2. Revisit points for consideration – Toolkit themes 3 and 5

As part of HE revisit activity the JUBILEE Toolkit has been utilised in the ongoing longitudinal strand of the research, aligning research activity more closely with evaluation Toolkit themes. By undertaking a structured interview with academic and library staff representatives, enlarging upon Toolkit themes, it is providing a coherent, replicable framework to interview schedules and allowing researchers to use data collated from this method to longitudinally map the progress and changes in EIS development within individual institutions' academic libraries and specific disciplines.

5.3 FE SUMMARY

The following section gives a summary of the key messages emerging from the FE study. A more detailed account can be found in section 5.3.1, which follows.

Reflection of all 5 thematic areas (Access, User Behaviour, Integration, Training and Liaison) of JUBILEE FE study – Cycle 5

Disciplines - Foundation Degree in Early Years Studies; Modern Apprenticeship in Catering/Hospitality; 'A' Levels in English Literature, Biology and Business Studies

ACCESS

Reflections particularly with regard to the Adult and Community Learning students -

- often had problems accessing computers at times to suit them – generally mature adult returners had specific times when they went to college (usually during school hours) but this coincides with peak access times
- those taking evening classes often preferred to use computers away from the library – biology and foundation degree students both mentioned preferring to use computers in their teaching rooms or at home
- some evening class students commented there was little in the way of technical support after 6pm
- complaints were common that it seemed that other students could be seen just playing on computers
- many commented they felt 'uncomfortable' in the library – intimidated by the younger, seemingly more able students. Other comments were regarding the language used and general noise of much younger students
- many lacked the confidence to ask anyone (library staff, teachers, technical support) other than colleagues/peers or family members to help them
- Foundation Degree students have access to University facilities, however many felt completed overwhelmed during their induction session and have subsequently not used them. Many also lack the time, and/or confidence to attend the university in person, they also feel that the partner university is too far away from where their college/home is to travel.
- Although academic staff recommend useful web sites to their students, the students themselves recognise that they 'don't need to go much beyond the books' that are used for the course – biology students site 2
- Consensus was that biology students use books 95% of the time
- Consensus was that Foundation degree students use books 90% of the time and computer use limited to the internet, although this was not wholly trusted or relied on.
- Foundation Degree students generally felt they were *"not at all"* confident when using computers, and that electronic journals were *"above my head"* – Foundation Degree student site 2
- One Foundation Degree student felt that if they were attending college full time they may spend more time gaining confidence using the computer, as it stands *"I just want to come in, do my work and go home"* – foundation degree student site 2
- One English academic feels that students should not rely too much on computers, and believes that for this discipline the students should not be relying on other people's opinion but should be encouraged to formulate their own. This teacher very rarely uses EIS themselves, and does not understand 'VLE' or recognise 'Blackboard' and rarely uses the college intranet (has found it problematic) – English Academic site 2

ROLE OF LIBRARIES

Librarians as both case study sites were proactive in their roles in trying to alert staff and students to relevant information, often taking an integrated approach to providing electronic information services alongside the more traditional information services such as books and journals within the one space. One Librarian (site 2) describes

the close liaison that is being established between themselves, academic staff and the ILT unit within the college in trying to develop materials for the emerging VLE (Blackboard), but this has not without it's difficulties in getting all parties together - librarian site 2. There are compulsory training sessions for staff to attend at site 2 which often involve session run by the library at site 2, site I publishes a termly paper alerting staff to new resources in addition to a weekly newsletter and notices on Blacboard, there are also more informal coffee morning type sessions which have proved successful – librarian site 1

Occasionally staff will approach librarians for a new service – however "*if you look at the list of electronic resources which we have on the Intranet, the majority of those have been selected by ourselves*" – librarian site 2. One experience was that a staff member requested a particular electronic service to satisfy the requirements for an inspection however the service was never used and was therefore withdrawn a year later - Library site 2

Librarians at site 2 - "*we still see **staff** with poor general IT skills, we still have staff who we seem to find it difficult to explain what an ATHENS password is, they seem to think that ATHENS is something*" this type of experience is seen as a barrier to embedding EIS use Librarian site 2

INFORMATION SKILLS

Library opinion is that there is varied student skill levels depending on previous experience before coming to the college. It also depended on the attitude of the teaching staff whether they felt it was important that their students had induction sessions with the library staff and this would impact on the student's experience of college life. This didn't seem to be universal, but "*it varies from faculty to faculty*" library staff site 1. Student use of EIS it seems "*depends on the importance the teaching staff put on the services really*" library staff site 1. When asked directly 'Do you think teaching staff have any influence on student use of electronic information services?' one librarian at site 1 responded "*not really no, I don't think they do. I think students find their own way of dealing with the information and where to find the information*" - librarian site 1

LIBRARY ABOUT STUDENT SKILL "*we are surprised that relatively young students can't access their e-mails, or web accounts. They've managed to set themselves up with a Hotmail account, but they can't actually access the messages…*"

During interviews and focus groups it became clear that they lacked a firm understanding with regards to 'electronic information resources' (despite a clear definition being previously given). Common were comments regarding EIS such as "*is that when I go to the Library, newspaper articles you mean?*" business academic – Site 2. But there is often a recognition by academic staff to update their skills "*…in business where you constantly have things happening in the news, things change and you need to update your knowledge*" business academic 2

When asked about EIS, academic interviewees often referred to using Powerpoint or Whiteboards. Another example would be that not all staff are aware of the college VLE however, when asked IS THERE A VIRTUAL LEARNING ENVIRONMENT HERE AT THE COLLEGE? The reply from one interviewee was "*I wouldn't have though so, I wouldn't have put it that strongly. There is a lot of e-learning going on… probably as a teacher I'd have serious reservations about that anyway*" business academic 2

Examples of students' lack of general knowledge are that during a focus group session with biology students at site 1 they did not recognise the terms 'electronic journal' or 'on-line database' and even queried what a 'journal' was. The main

electronic resources they used were internet search engines, usually Google, and CD-ROMS – biology students site 1

Librarian at site 2 believes that access to computers in the library by students "*should be good*" due to the number of isolated 'drop-in' areas located in classrooms throughout the college. This might seem like a good idea but the librarian feels that "*students want more than just PC access*" and that students prefer to use IT where there are other students around and where they can seek help if needed whilst also having access to books nearby so much so that students will queue up in the library rather than go elsewhere.

With regard to providing resources for staff and students at site 2 a librarian believes that Infotrac provision gives adequate global coverage but acknowledges that providing electronic information services at the required academic levels for FE is problematic. Issues to consider, according to this interviewee, are that larger supplies try to cater for the 16-19 age bracket were in fact the student profile is much more diverse than that, and smaller suppliers haven't quite got the detail and design of their sites sorted out yet in terms of navigation and user-friendliness. Library site 2

MODERN APPRENTICESHIP

The Modern Apprenticeship element of the study was valuable in that it was a more challenging participant in this project – At one case study site particularly, the modern apprenticeship course is a new venture and therefore still in the early stages of refinement. Students are work-based primarily and therefore is more 'hands on' than theoretical in nature. At best students may attend lessons in college once a week, more likely not at all. The academic abilities of the students often mean they are less likely to access anything other than recommended sites and the Internet. Academic staff are not likely to recommend sites to students as the course is more practice based. Of the students seen at the pilot study site, they have very few computer skills other than searching the Internet for sites wholly inappropriate for academic work. Academic staff are concerned with students meeting the level of attainment needed for the course and no more.

5.3.1 IN DEPTH SUMMARY OF CYCLE 5 FE RESEARCH ACTIVITY

During cycle 5 a survey was conducted of all Further Education (FE) colleges within the North East, North Yorkshire and Cumbrian areas of England. The study aims were to gather broad general opinion of electronic information service (EIS) use across the region to be supplemented by case study research at 3 separate institutions. Focus was on the new JISC audiences of Modern Apprenticeships (as an example of Adult and Community Learning (ACL). Samples of 'A' Level students in 3 subject areas were also included. There are 36 Further Education institutions of varying sizes in this region. The student groups chosen for close examination of Electronic Information Services (EIS) practice in Further Education institutions in cycle 5 are:

- Foundation Degree in Early Years Studies
- Modern Apprenticeship in Catering/Hospitality
- English Literature A level
- Business Studies A level
- Biology A level

For the broader survey, information was gathered as to the names of individual teaching staff at each institution and 3-page questionnaires were forwarded together with a letter of explanation with regard to the aims and objectives of the JUBILEE project in gathering information about electronic information service (EIS) use and asking for participation. One questionnaire was forwarded to one member of staff for each of the disciplines in the study. In addition a separate questionnaire and letter was forwarded to a librarian at each institution. Potentially an institution could receive 6 questionnaires, but this was rare as not all institutions offered all the courses. Documentation was maintained to manage this process and

reminders were sent by e-mail to individuals not returning questionnaires within a given period. As part of the questionnaire we invited participants to be further involved in the project. A very positive response rate to the academic/librarian questionnaires has been received of 56%; this could be an indication of the level of commitment by academic staff in the further education sector to embracing changes in pedagogy issues.

As part of the general survey questionnaires were received from 30 separate FE institutions across the whole of the North East of England. Questionnaires are included in this study from 2 case study sites, both of which are FE colleges in the North East of England. A total number of 650 questionnaires were received from students, 29 from librarians and 64 from academic staff. A further case study site was involved as a pilot study and subsequently does not form part of the overall analysis. There was a fairly equal spread between most of the disciplines, however returns from Modern Apprenticeship academic staff and students are shown as the lowest with nearly 11% and 3% respectively. Analysed by discipline the returns are shown as:

Questionnaire returns:

Foundation Degree in Early Years Studies • Academic 21% • Student 21%	**Modern Apprenticeship in Catering/Hospitality** • Academic10% • Student 3%	**English Literature A level** • Academic 25% • Student 34%
Business Studies A level • Academic 17% • Student 10%	**Biology A level** • Academic 25% • Student 30%	**All disciplines cycle 5 FE** • Academic total 64 • Librarian total 29 • Student total 650

For the purposes of this report analysis has largely been conducted in percentages when examining the whole of the sample to enable comparison within groups. Where crosstabulations of data are conducted for cross sections of the sample, figures may be shown in numbers of respondents.

A pilot study was conducted at one FE institution in the North East of England (see appendix F) followed by case study surveys at two FE institutions in the North East of England. Focus groups, in-depth face-to-face and telephone interviews with academic staff, senior management, librarians and students have been conducted in the target disciplines. Case study research has resulted in additional rich, qualitative data. For the purposes of anonymity case study sites are referred to as either: pilot study site, case study site 1 or case study site 2.

The numbers of interviews and focus group sessions held were:

Academic, Librarian, senior management interviews: 25 + 7 in the pilot study	Student focus groups: 5 + 3 in the pilot study

Analysis for this project is comprised primarily of two elements, quantitative and qualitative:

> Graphs have been prepared to examine the 5 thematic areas of the study: User Behaviour, Integration, Training, Liaison and Access. Each theme is not seen in isolation however and elements of each theme can be found in many areas of the study. As an example 'User Behaviour' may be an issue in the themes of 'Training' or 'Access' and so on. The results shown in these graphs are discussed throughout this report.

Analysis of the qualitative data gathered throughout the research project, again in relation to the 5 thematic areas of the study, provides rich evidential information adding substance and weight to the quantitative data.

Brief profile of the two case study sites:

Site 1 has 3 main library sites plus 2 outreach centres offering restricted service. Access to all resources for students and academics alike at the main college sites for Site 1 was for nearly 13 hours Monday to Thursday, nearly 9 hours on a Friday and 3 hours on a Saturday with 500 computers being available - Librarian site 1. Librarian opinion was that access can be slow and not always stable – Librarian site 1

Site 2 has 4 separate library sites. The opening hours are 11 hours daily, Monday to Thursday, 8 hours Friday and 4 hours on Saturday. The library has been described as a changing environment – much noisier with increasingly restricted space for quiet study areas. General academic opinion was that they had a fairly reliable network - biology academic 2, Librarian site 2

5.3.2 ACCESS

The working definition of 'Access' used for this project:

covers levels of EIS provision and accessibility both within the institution and remotely

For this initial section of the report FE library staff were asked for their perceptions with regard to the availability of EIS for FE academic staff and student use.

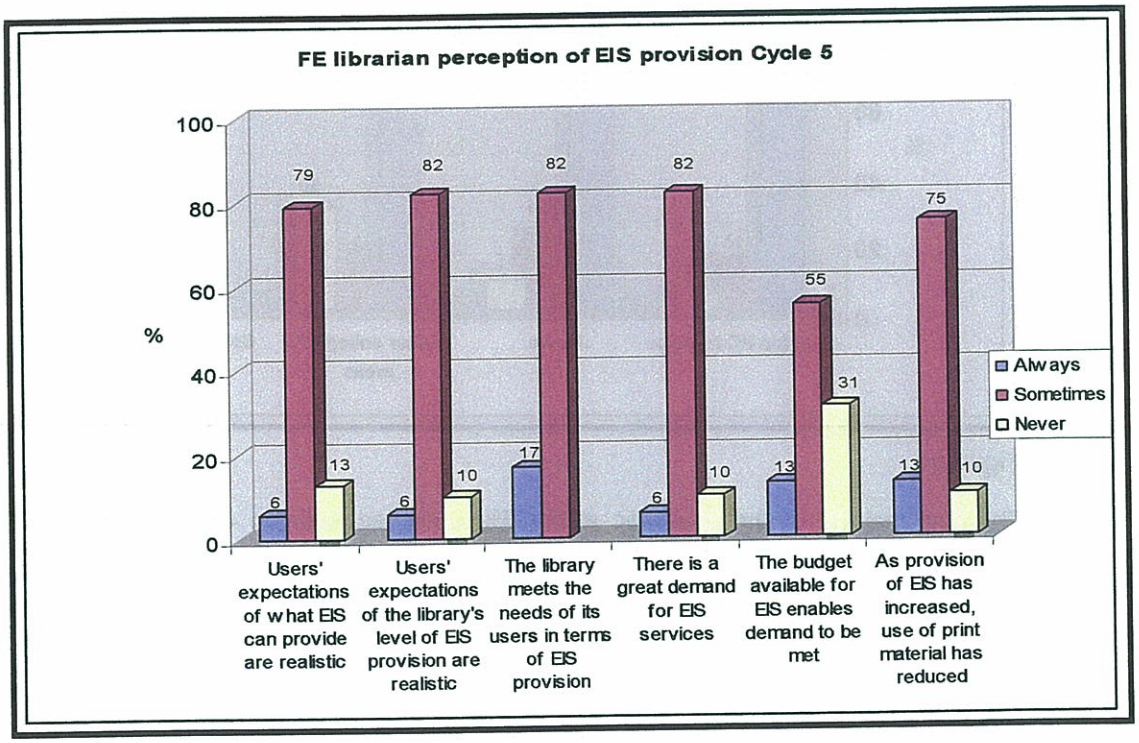


Figure 12

In response to these general statements we can see that librarians tend to opt for the middle road by choosing the 'sometimes' option, there are however two small exceptions. 17% of librarians felt that they 'always' met the needs of its users in terms of EIS provision and nearly a third of all respondents (31%) felt that the budget available for EIS did *not* meet with demands

Academic staff within the Further Education sector tend to share staff common rooms and this fact is highlighted in the numbers of staff who share a PC (51%) rather than have sole use (47%). Librarians are shown to be more likely to have sole use of a PC (89%). In the sample, Biology academic staff have more 'own PC' access (11 of the 16 staff) than any other group of academic staff.

Some staff opted to have a pool of computers in the staff room to give them more space on their desks - biology academic site 1. Generally academic staff seemed to be fairly comfortable with sharing PC access in staff rooms;

"There's usually one available if you want to use one because we're not all in there at the same time" - biology academic Site 2

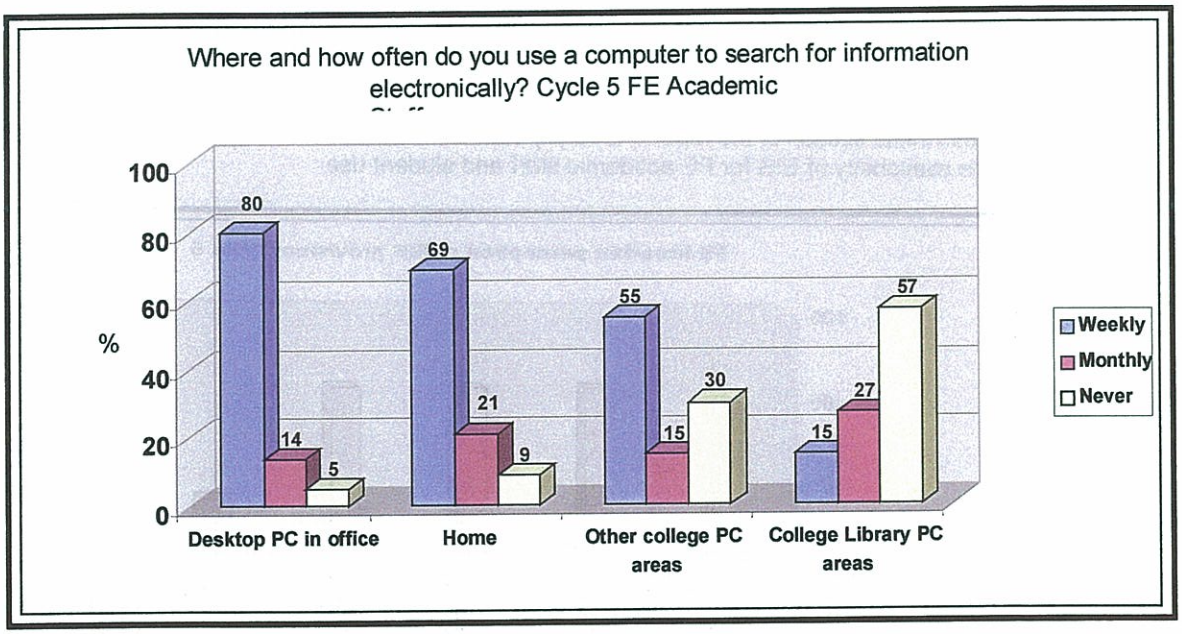


Figure 13

The vast majority of the academic staff (95%) surveyed claim to search for information electronically. Across the disciplines only 3 individuals claim not to use EIS at all. When questioned further, a high proportion (80%) search on a weekly basis and 14% on a monthly basis from a PC located within their office. Half of the respondents answered the question with regard to searching for information in college library PC areas either 'weekly', 'monthly' or 'never'. Of those respondents 57% claim to 'never' search for electronic information in the 'college library' areas. Only a small number of staff use 'library PCs' (15%) on a weekly basis and 27% on a monthly basis. This may be due to the availability of PCs elsewhere in the college as it was shown that 'Other college PCs' are regularly used by just over half academic staff answering this question (55%). One possible reason for this is that in at least one of the case study colleges PCs are located in each teaching room for use during teaching sessions. A high proportion of staff (69%) search for electronic information 'at home' 'weekly'

and 21% on a 'monthly' basis. Only a very small number of the sample (9%) 'never' searches for electronic information on a PC at home. In fact just over a third of respondents indicated they were 'always' 'confident of using EIS' and 60% say they are 'sometimes' confident.

Interviews at case study sites revealed that generally staff are pleased with the levels of PC access and technical support available to them. Logging on to computers with passwords was generally unproblematic and technical support although at times not as responsive as they would wish, was felt to be satisfactory. A part time teacher at site 2 used the computer regularly and felt in *"in a similar position to the students; if I want to use a computer I go to the Learning Centre".* Site 1 Business Academic

The majority of library opinion is that its users can 'readily access a networked PC in the library' (96%) and in 'other college PC areas' (100% of those offering an opinion). Librarian and student comments during case study research reveal that students occasionally have to wait before accessing a PC especially at peak times. To try and ease the congestion both case study sites have introduced systems were students are allocated a set amount of time to use the PC.

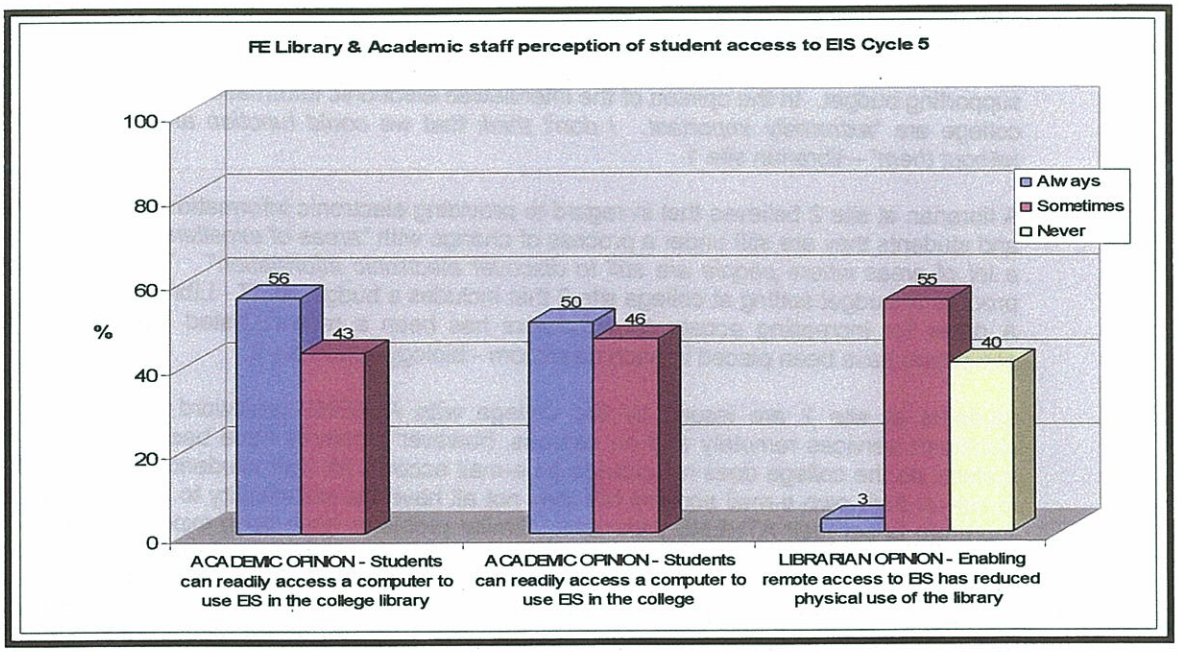


Figure 14

A cross section of opinion is shown in figure 14 with regard to academic and library opinion. Whilst 100% of librarians believed staff and students could 'readily access a computer in the college' (see above), academics are slightly more reticent. Just over half the sample (56%) said students could 'always' access a computer in the library. This issue is raised by students during focus group sessions where they also showed less confidence than librarians about access.

Students themselves were largely satisfied with the accessibility of computers, through which they can make use of EIS:

- 31% of the students offering an opinion claimed 'very much so',
- 41% 'fairly',
- 22% 'sometimes'.

Only a very small contingent believed that there was 'hardly' (3%) enough, or 'not at all' (2%) enough PC provision. It was commented in focus group sessions however that some students did not like using the library to use a computer because they felt intimidated; often holding the perception that other students knew 'what to do' and 'how to do it'. Other comments had been with regard to not being able to access a computer at busy times and being frustrated by seeing other students 'just messing' [sic] on the PCs.

5.3.2.1 QUALITATIVE RESPONSES – ACCESS

THE FOLLOWING SECTION IS AN ANALYSIS (IN NOTE FORM) OF THE QUALITATIVE DATA GATHERED FROM INTERVIEWS WITH BOTH ACADEMIC AND LIBRARY STAFF AND FOCUS GROUPS HELD WITH STUDENTS AT THE CASE STUDY SITES IN RELATION TO THE 'ACCESS' THEME (WHERE POSSIBLE COMPARISONS HAVE BEEN MADE BETWEEN THE TWO SITES) -

A librarian at site 1 described the library has having very good facilities with a well established VLE. Another librarian described *"we have excellent facilities for all our students, full and part time"* – Site 1. This college is in partnership with local public libraries and a local university to share particular licenses for access to certain databases. Another librarian at site 1 felt that they had a very big range of software but that they haven't got far down the line of databases as yet – site 1. There is a learning resource co-ordinator for each of the 4 faculties at site 1 and the principal is described as 'driving forward IT' with a well resourced library and good supporting budget. In the opinion of the interviewee electronic information services within the college are *"extremely important. I don't think that we could function as an organisation without them"* – librarian site 1.

A librarian at site 2 believes that in regard to providing electronic information services to staff and students they are still under a process of change with *"areas of excellence and [we have] a lot of areas where people are still to discover electronic information"*. There is a robust process of budget setting at college site 2 that includes a budget for IT - Librarian site 2.
A driver for increasing access to computers has been a recent Ofsted inspection where computers have been placed in each classroom - biology academic 2.

Students at site 2 are issued by the college with ATHENS password and can access electronic services remotely and on campus, however problems have been found with this system, as the college does not provide an e-mail account for their students. Students need to set up their own e-mail account but then not all have the skills/ability to access these and therefore to get their ATHENS password. Similar problems have been experienced at Site 1 where there is currently a pilot scheme in operation to give students college e-mail – librarian site 1. One librarian at site 2 recognises the use of electronic information services access within the college is increasing but also that students experience real problems trying to access electronic information services remotely as there isn't a library link on the web site. To try and solve this problem leaflets have been produced with web addresses clearly shown, however students still have difficulties seeming to lack the skills and/or experience to complete this task successfully - site 2.

As part of their course Foundation degree students at both case study sites are given access to partner university campus' – Site 1 and 2. Librarians have come across licensing problems where students are allowed access onto specific databases as part of the link with the University, however academic staff teaching the course do not seem to be allowed the same access – librarian site 2. Foundation degree students have been supplied with a laptop and a printer; this has been funded by the Sure-Start programme Foundation Degree academic site 2.

The librarian at site 1 felt that although entitled to, not all part time students use the colleges' facilities, as not all apply for a password. Students, we were told, should be aware that they could access the college facilities in a student handbook given to them at enrolment – Librarian site 1. Both library sites 1 and 2 experience issues with regard to providing electronic access to students at certain periods of the day and therefore access to PCs is restricted at heavily used times using a system where PCs are allocated to a particular student. A librarian at site 2 believes that access to computers in the library by students "*should be good*" due to the number of isolated 'drop-in' areas located in classrooms throughout the college. This might seem like a good idea but the librarian feels that "*students want more than just PC access*" and that students prefer to use IT where there are other students around and where they can seek help if needed whilst also having access to books nearby so much so that students will queue up in the library rather than go elsewhere – librarian Site 2.

During focus groups biology students at site 2 expressed how they only accessed PCs in the "biology lab" during class periods and when pressed on why they didn't use the facilities in the library one students said that the "*computers are so crammed together that there was no where to put books*" - biology students 2. One Foundation degree academic also confessed to using the teaching room computers during teaching sessions rather than the library – Site 2. At site 1 students explained they have access to PCs via a booking system which allocates a PC for their use for a prescribed amount of time. At peak times however allocated times can be reduced, but this doesn't remove the queues that form. One group of students feel particularly disgruntled by not being able to access PCs during the day - although the library is open extensively throughout the week and even on a Saturday, mature students with family commitments mean that they have limited time to use the PCs – Student focus group site 1. Another issue discussed at site 1 was that students generally complain of the slowness of the college network, "*if it [the computer] is at the end of the access line, it can run very, very slowly*", another complaint is about the lack of printers available. At one site there are about 50 PCs and 2 printers - biology academic 1. This point was confirmed during a focus group where students agreed that when the college was busy the system could be slow with logging on times taking up to 20 minutes – business students site 1. To compound the issue several students felt aggrieved at not being able to access a computer especially as one person put it "*...[it is] hard to get on computers sometimes and you find that some people are playing games on it when you really need to do your coursework*" – business students site 1. Elaborating further, students told how they can access a drop in zone that gives them use of a computer for one hour, but complain that for longer use they can have difficulties. It is apparent that staff block book whole IT rooms at the beginning of the year but students have noticed they are often "*practically empty*". Some friendly staff will often let students into classes held in the computer rooms when they know they will just quietly do their work. The students advised that they had actually made a complaint about block booking of rows of computers in the library at one centre. The students issues with this practice were that it causes problems for them whilst using the library as it becomes "*noisy*", and they feel that the students are "*just messing on and things*" and therefore the students in this focus group say they want to just try and spend as little time as they can and only go into the library when they really need to – business students Site 1

With regard to providing resources for staff and students at site 2 a librarian believes that Infotrac provision gives adequate global coverage but acknowledges that providing electronic information services at the required academic levels for FE is problematic. Issues to consider, according to this interviewee, are that larger supplies try to cater for the 16-19 age bracket were in fact the student profile is much more diverse than that, and smaller suppliers haven't quite got the detail and design of their sites sorted out yet in terms of navigation and user-friendliness - Library site 2. This was a point also made by staff at site 1 "*trying to get specialised packages across all of the vocational areas is extremely difficult*" - library site 1. A librarian explained that the cost of subscription to services needs to be justified by the number of 'hits' and the ones with less use are cancelled, subsequently Infotrac was seen as being successful both in terms of cost and by the number of 'hits' – library site 1.

Problems had been experienced with CD-ROMS at both case study sites. At site 2 it was noted that *"we're actually phasing the usage of CD-ROMS out of the library, it has very poor usage"* - librarian site 2. At site 1according to one academic staff member problems had occurred due to damage of the machines caused by students, they also felt that they weren't used very much by students – biology academic site 1.

A librarian at Site 1described how there college is in the process of trying get a PC on every academic staff members' desk. Staff access to Pc's at sites 1 and 2 is generally shared with each member of staff gaining access through a renewable password, which does not seem to cause problems -business academic 2, biology academic site 1. One comment from another member of staff at site 2 was *"There's usually one available if you want to use one because we're not all in there at the same time" Biology Academic site 2.* Many staff did comment that they rarely changed their password when prompted on screen (usually every two months). There seems to be different experiences dependent on the particular discipline. A business academic made frequent use of the colleges intranet system to access student records, but one English academic expressed concern regarding access to the college intranet, stating *"some of us have almost given up using it"* – English Academic site 2. It was later commented by another academic that access to e-mails can be problematic when sharing - biology academic Site 2. A biology academic and an English academic at site 2 indicated they did not access electronic resources remotely – academics Site 2. A librarian at site 1 indicated that there was limited remote access for staff and students due to licensing agreements – librarian site 1. Staff at site 1 can access some aspects of the college system remotely i.e. the intranet which gives access to Blackboard, but not their 'information depository account' – biology academic, business academic site 1. Staff at Site 1 confirmed that students did have remote access to Blackboard and this interviewee told how they encouraged their students to use the college facilities. It seems that this academic staff member was aware that students should be alert to the quality and authenticity of information they gather with this comment *"we make them aware of accessing sites that we haven't verified"* – business academic site 1. Some students during focus groups did however comment that they had encountered problems trying to access Blackboard remotely because they had to use the URL – business students site 1.

During interviews and focus groups it became clear over time that there lacked a certain level of understanding with regards to what was meant by the term 'electronic information services'. It was common to hear such comments as *"is that when I go to the Library, newspaper articles you mean?"* business academic – Site 2. But there is often recognition by academic staff to update their skills *"...in business where you constantly have things happening in the news, things change and you need to update your knowledge"* - business academic site 2

Closely linked to PC 'access' is 'user behaviour', with this in mind the next section is an examination of 'user behaviour'.

5.3.3 USER BEHAVIOUR

The working definition of 'User Behaviour' for this project:

> an investigation in terms of basic IT, information seeking and evaluative skills and EIS awareness.

Looking at where students use computers and how often (see figure 15) ranked in order of where EIS is most used, we can see that most access is on a weekly basis 'at home' (83%), followed by 56% accessing a college library computer 'weekly'. (Sample n= 650)

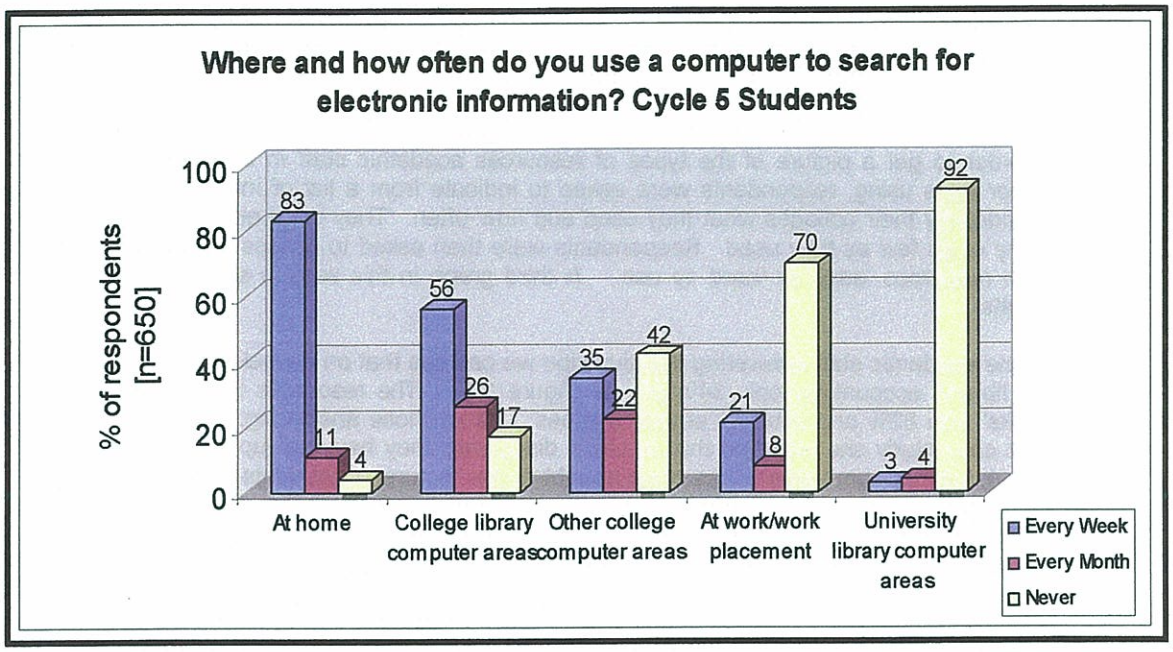


Figure 15

Interestingly, we can see 17% 'never' use computers in the library and 42% indicate they 'never' use computers in the 'college'. By far, the favoured option is to use a computer at home (83%). This high proportion of home use continues the trend in previous JUBILEE cycles with students finding it easy and convenient to search for information at home. Once again however, given comments by focus group participants, this may also be a result of a students' low confidence in their own information seeking skills. Students at the pilot study site felt more comfortable using their computers at home where they could enlist the help of family members such as their husband and or children. The high 'never' figure for 'University library computer areas' is likely to be due to the fact that generally only Foundation Degree students have access to University computer facilities as part of their course. Half of the students indicated that they 'never' access a computer at work/work placement, and subsequent interviews with students and academics at case study sites reveal that it is generally only Modern Apprenticeship students that have a work placement as part of their course. However, many Foundation degree course students indicated in focus groups that they also have access to a PC at work.

Foundation degree in Early Years Studies students – 84% access at home, 45% access at work on a weekly basis. Over half however indicated 'never' to accessing a computer at University library computer areas. Students indicated that although access to University facilities is allowed as part of their course it can be inconvenient for them to physically get to

the collaborating University, especially where the University is many miles away from the college. Other reasons for non-use indicated during focus groups were that many felt uncomfortable and intimidated or that they felt they lacked the necessary skills to use the University PCs. Many of the students on this course were adult returners to education and encountered problems arranging alternatives for childcare or other family commitments.

Modern Apprenticeship in Catering/Hospitality students – 64% access at home weekly and 50% access college library computer areas on a monthly basis. Use tends to be monthly for these students in the college library or other areas with very little weekly use outside the home. One possible reason for such patterns in user behaviour may lie in the structure of the course they attend. During interviews and focus groups, it was revealed that many Modern Apprenticeship courses take place largely within a work placement setting with little or even no contact with the college providing the course.

'A' Level course students – weekly use at home is again high for this group of students and at least 2/3 access computers in the college library areas. Use is also made by some students of computers in other areas of the college (>32%).

In order to get a picture of the types of resources academic staff in the further education sector were using, respondents were asked to indicate from a list of information resources provided by their colleges what they used and how often. They were encouraged to tick as many or as few as they used. Respondents were then asked to assess whether they found such resources 'easy' or 'hard' to use. A third graph in this section shows the combined results.

Of the academic staff answering this question we can see that on a weekly basis 'books from the library' account for only 34% of use (figure 16). The resources most used are 'own books' with 82% and 'internet search engines' 79% of those answering. Discussion in the pilot case study site revealed that in some disciplines they have set up their own library in their teaching room using books often bought by the lecturer. Students have commented in focus group sessions that books in the library were not helpful to them. Academic staff seem more likely to use 'books from the college library' on a 'monthly' basis (58% of those offering an opinion). From the data gathered, 'CD-ROMS' (54%) and 'printed journals from the college library' (50%) are also being used monthly rather than on a weekly basis. Interviews with case study librarians indicate that use of CD-ROMS is diminishing even to the point where the numbers of PCs dedicated solely to CD-ROM use is being reduced. Indeed, 29% of respondents claim 'never' to use CD-ROMS. Additionally 58% and 50% respectively, claim 'never' to use 'databases of journal articles' or 'electronic journals'. There is little to discriminate between the disciplines with all responding similarly on this question. Some exceptions are that one Foundation degree academic and one Biology academic claim to search 'databases of journal articles' weekly.

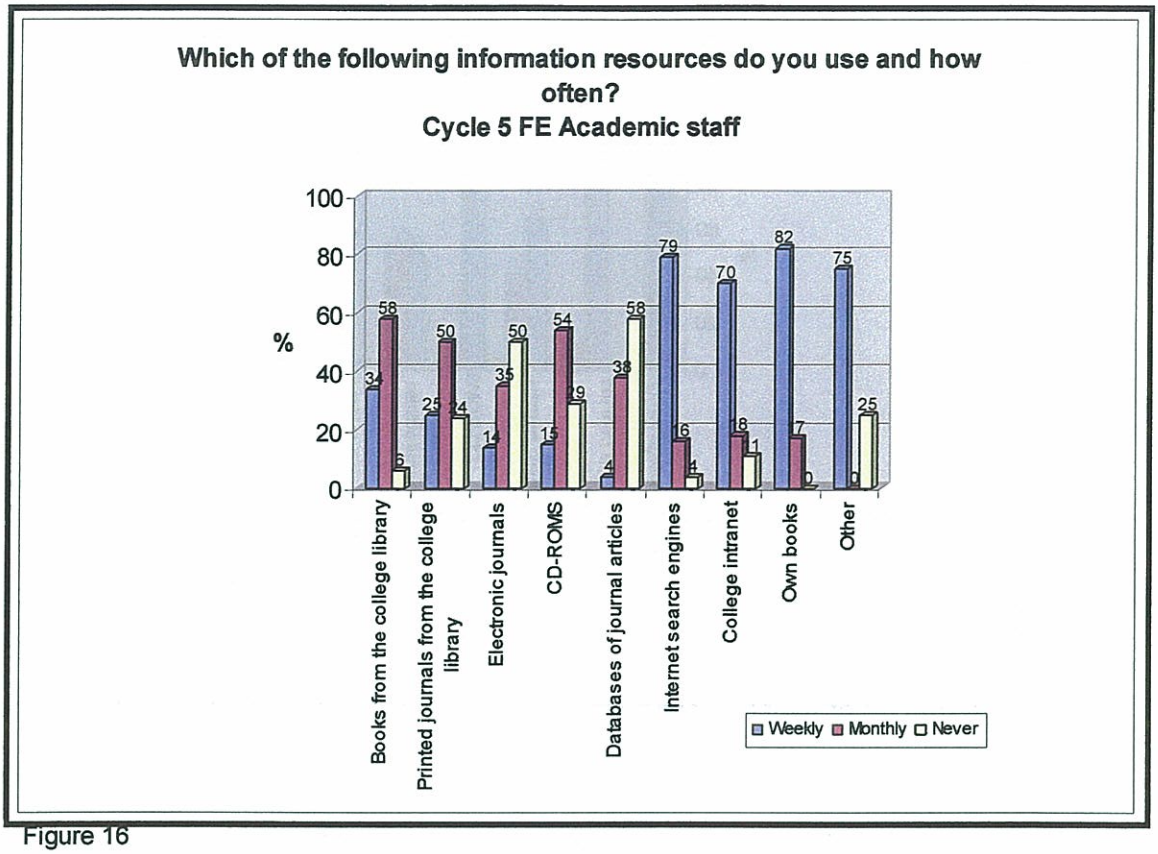


Figure 16

Our findings also show that staff in the Business department are less likely to use a college intranet with only 3 of the 11 staff indicating weekly use whereas for the other subjects the majority use it on a weekly basis.

Assessing the perceptions of academic staff we can see that the most difficult to use resource seems to be 'databases of journal articles' with just over half of the sample answering this question claiming these as 'hard' (51%) (figure 17). This is mostly made up of Foundation Degree academic opinion. 4 of the 5 English academic staff however indicated 'easy' for databases. Books are predictably seen as easy across the board. Of note is that although over 50% of the sample claimed 'never' to use 'electronic journals' this graph shows that they are viewed as 'easy' to use by 61% of academic respondents. One exception again is that of Foundation Degree academics, with more indicating 'hard' than 'easy' (6 of 10).

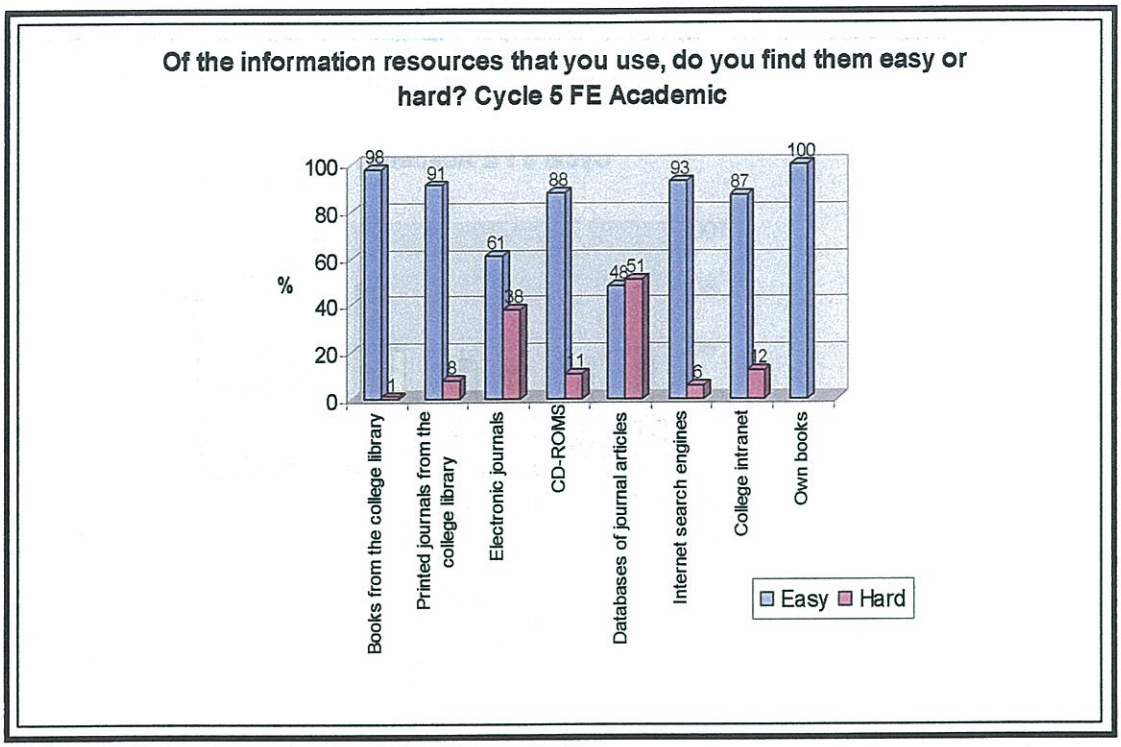


Figure 17

We have compared academic staff use of information resources and their respective perceptions with regard to ease or difficulty of use with the following graph - see figure 18. This format has also been used for the production of a graph for student use and perception of resources - figure 19. Both have been graded by the *most used* information resource to the *least used* resource. Figures are calculated in these graphs by using the actual number of respondents for each question as not all respondents offered opinions for all questions regarding use, and the percentages for the actual numbers of responses for the opinions of 'easy' and 'hard'. For example 97% of academic staff indicated they used books and 100% of those offering an opinion indicated they were 'easy'. The first graph shows percentages of resource use by academic staff, and those users' perceptions regarding ease of use. We can see that academics' 'own books' are the most used information resource and 'databases of journal articles' the least used - figure 18. All of the academic staff offering an opinion (97%) not surprisingly find 'own books' 'easy' to use (100%). We can also see that as the use of the particular resource reduces, the perception of using the resources becomes increasingly 'hard'. Use of electronic journals on a weekly/monthly use basis is indicated by only 43% of the whole sample of 64 academic staff with 38% of those answering believing them to be 'hard'. Additionally use of 'databases of journal articles' is similarly less likely to be used – 32% of the whole sample indicated use on a weekly or monthly basis with just over half (51%) of the respondents offering an opinion believing them to be 'hard' to use.

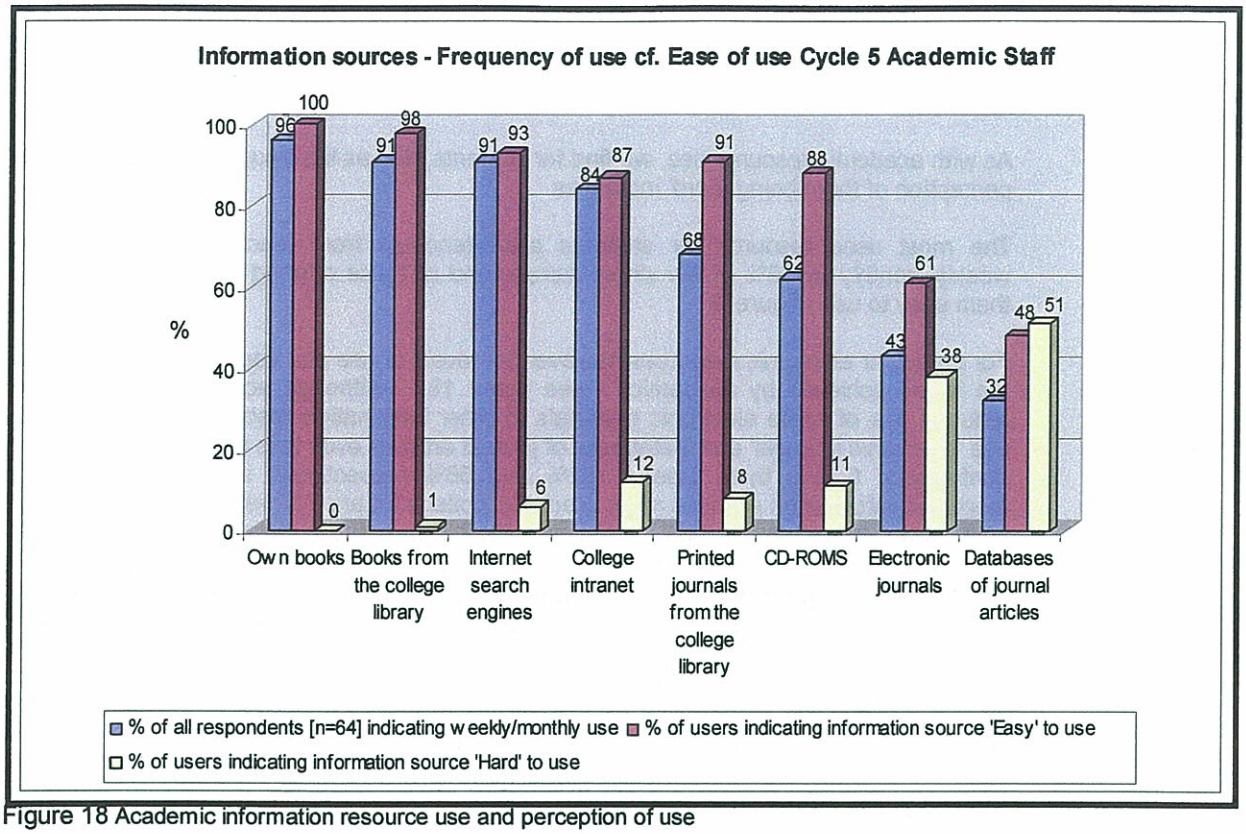


Figure 18 Academic information resource use and perception of use

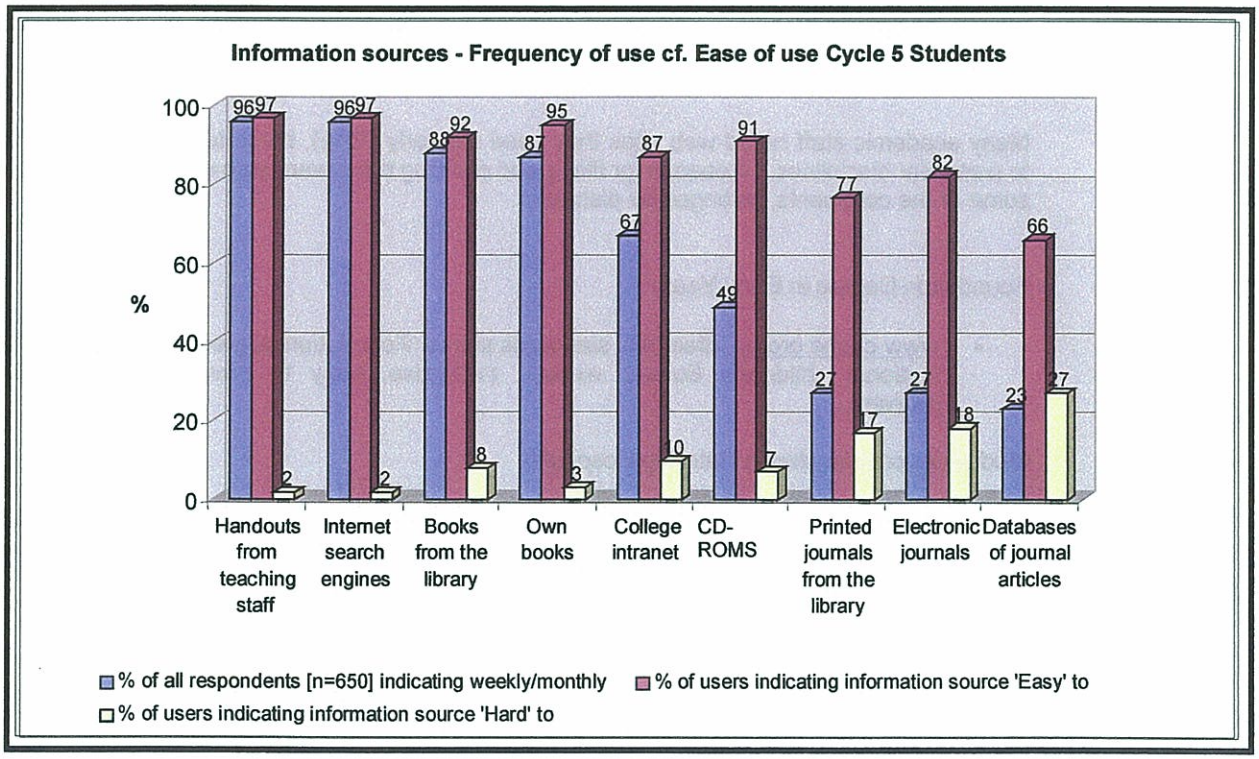


Figure 19 Student information resource use and perception of use

Similarly, considering student responses to the same line of questioning we can see a comparable pattern emerging with regard to use of non-electronic and electronic information resources.

As with academic resource use, we find for students, that as the frequency of use reduces the perception of them being 'hard' increases.

The most used resource for students are 'Handouts from teaching staff', being used weekly/monthly by 96% of the whole sample and of those offering an opinion 97% believe them easy to use - figure19.

For particular electronic resources however the levels of use and ease/difficulty do not match the levels achieved by academics - see figure 18. Although academics show a much-reduced use of some electronic materials to other information resource materials, students use 'electronic journals' and 'databases of journal articles' even less than academics claim to, confusingly, finding them 'easier' (82% and 66% respectively) in comparison. Of the electronic information services *most used*, the 'college intranet' is well used by both academic staff (84%) and students (67%), both claiming high levels of 'easy' use - figures 18 & 19. Even the most cursory glance at both FE academic and student user behaviour reveals that across both sites and disciplines, hardcopy materials remain the most popular information resource. Dramatically less use is made of library provided EIS such as 'electronic journals' and 'databases of journal articles', with a direct correlation between lesser use of these resources and perceptions that they are 'hard' to use. While this association appears obvious, it has clear implications for EIS promotion and staff and student skills development within colleges, EIS use needing to be further encouraged by colleges and library staff particularly given the cost of supplying electronic resources. As is shown in figure 21 difficulties may lie in the fact that not all librarians are fully confident in their own abilities when dealing with EIS (44% 'always' confident).

The one exception to this picture of lesser use of EIS than traditional print resources by FE academics and students is Internet search engines, which appear to be widely and easily used to retrieve information. 91% of academics use search engines, a far higher proportion than use of print journals (68%) or electronic journals (43%). Most find these easy to use.

Many academic staff noted web sites they used regularly (79%), these tended to be specific to particular disciplines. Reasons for liking and disliking them were also noted. Here are just some of the comments, arranged by discipline:

Foundation Degree in Early Years

- www.cache.org.uk, dfee [sic] standards site for Foundation degree in Early Years, the National children's Bureau website ('effective, easy to navigate, up to date, relevant...')

Modern Apprenticeship in Catering/Hospitality

- National Learning Network , City & Guilds CD Rom ('saves time, well written'/'rather formal and impersonal'), NHS Direct Nutrition website FSA.gov.com ('good information', 'often shuts down – over zealous firewall')

English Literature A level

- www.shakespeares-sonnets.com, ('Extensive and detailed info at the right level'), EBS and Proachieve ('can be slow'), www.whatsonstage.com ('easy to find productions of set text...' , 'not comprehensive')

Business Studies A level

- www.bized.ac.uk and www.lawteacher.net.uk ('dedicated to A level teaching... links with other sites'/'not all relevant topics covered – quality/usefulness of information variable') ('content is poor and rarely updated'), Exam board – AQA website ('quick, instant access', 'often lacks most recent documentation...')

Biology A level

- Biotutor online discussion list ('all biology teachers so all likely to be useful')

Some of the others mentioned were:

- Athens Accounts – ('but sometimes difficult to access journals')
- Infotrac ('but hard to access')
- BBC ('can lack the detail needed for A levels')
- Google

For students, search engine popularity is even more clear-cut, with these being the joint most popular information source, along with staff handouts (96%). 97% of FE students find Internet search engines easy to use. Students and staff appear to make use of those resources that appear not to require highly developed information literacy, naturally resorting to search engines, as superficially, in comparison with other EIS, these are easy and quick to use. When students were asked to name their 'favourite electronic information source' the vast majority named a search engine (not a particular site, as academics above) such as 'Google' or 'Ask Jeeves'. Many students do however; acknowledge that some of the information they retrieve is 'unreliable'. The popularity of Internet search engines over other EIS does however have implications, particularly in terms of skills training given the unreliability of much on-line information.

CD-ROMS are also a resource generally used with seemingly little difficulty. It is noted that earlier comments by librarians were that there was a diminished' use of CD-ROMS however, half of the sample of students claim to use CD-ROMS (49%) and more than half of the academics (62%). Both groups of respondent groups give high levels of 'ease' of use for CD-ROMS. Examining the data by 'discipline' we can see that academic use of CD-ROMS is high across the board. The very high users are shown as Biology academics (93%) then Modern Apprenticeship in Catering/Hospitality (82%) followed by Business (71%), Foundation Degree Early Years (61%) then English Literature academics (46%). The graph below shows the comparison of student and academic use of this resource (see Figure 20).

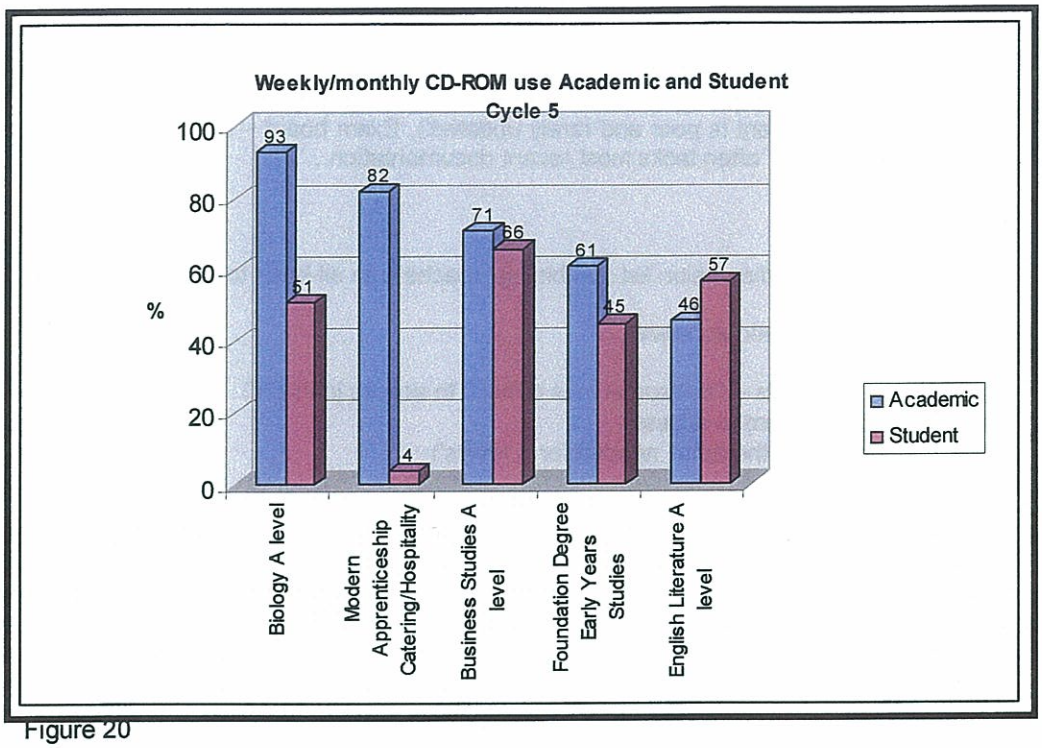


Figure 20

The largest discrepancy with regard to academic and student use is for the Modern Apprenticeship course. Due to the general course structure, i.e. courses being primarily work-based, this figure is not surprising (see figure 20).

Having analysed academic staff and students' own perceptions with regard to their skills at using information resources, we asked librarians for their perceptions of academic and student skills in using information resources. Firstly a graph was prepared showing 'librarian confidence about their knowledge of EIS' and library opinion of 'Users' confidence in using EIS' compared with academic confidence in using EIS - see figure 21. This graph then led to another graph being produced showing library opinion of their own skill levels with regard to particular information resources - see figure 22.

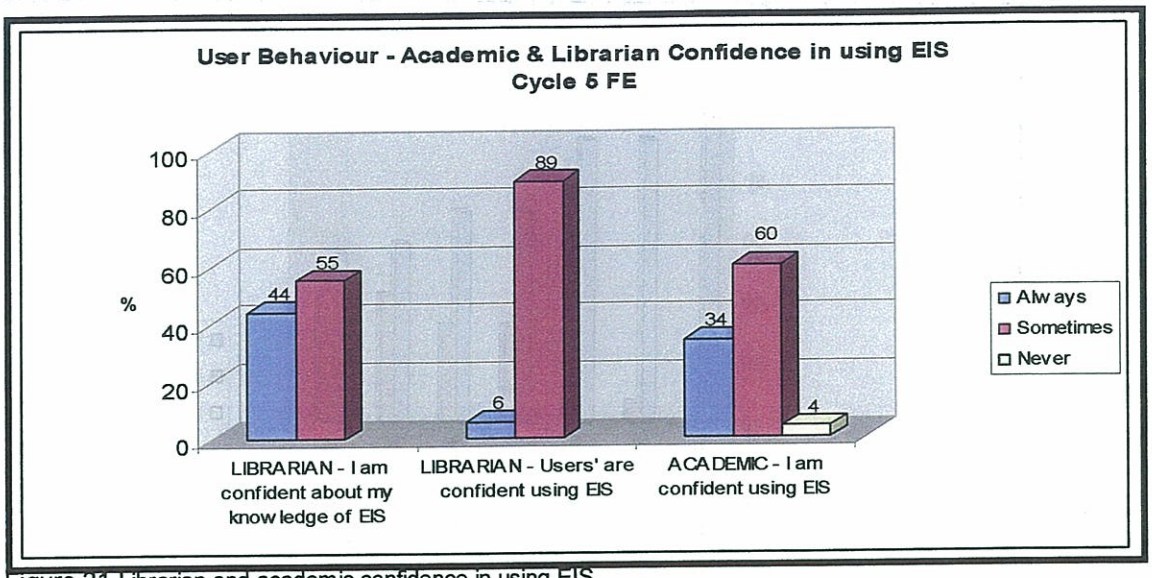


Figure 21 Librarian and academic confidence in using EIS

We can see that although academic staff are shown to be confident in their EIS use (34% 'always' and 60% 'sometimes'), the majority of library staff (89%) hold the opinion that 'users' are 'sometimes' confident. Interestingly, less than half of the librarians believe themselves to be 'always' confident of their knowledge of EIS. As discussed previously this could have implications in the training of academic staff and students in the effective use of this often costly but valuable source of information.

Librarians' perceptions of their own skill levels are consistently 'high' where non-electronic information resources are concerned, but for EIS more librarians are opting for 'medium' rather than 'highly' skilled - see figure 22.

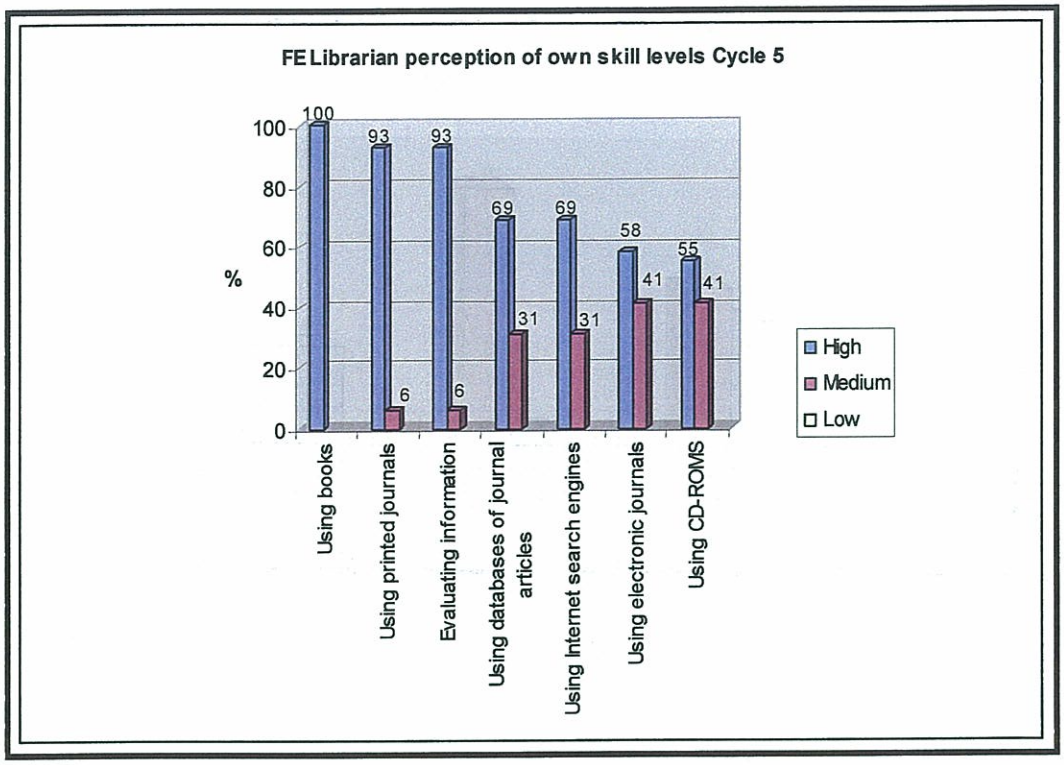


Figure 22

Library staff perceptions of the skill levels of academic staff generally follow the academics' own opinion of ease or difficulty of use of particular electronic resources see figure 23. Grading the graph by 'high' to 'low' levels of skill, we can see that library opinion is that academic staff have 'low' skill levels where 'databases of journal articles' and 'electronic journals' are concerned and 'high' for books (41%). It is interesting how many librarians rate academics with 'medium' skills (51%) even for 'using books'. Library staff opinion of academic skills for using CD-ROMS are mixed with almost equal amounts claiming academics both 'medium' and 'low'.

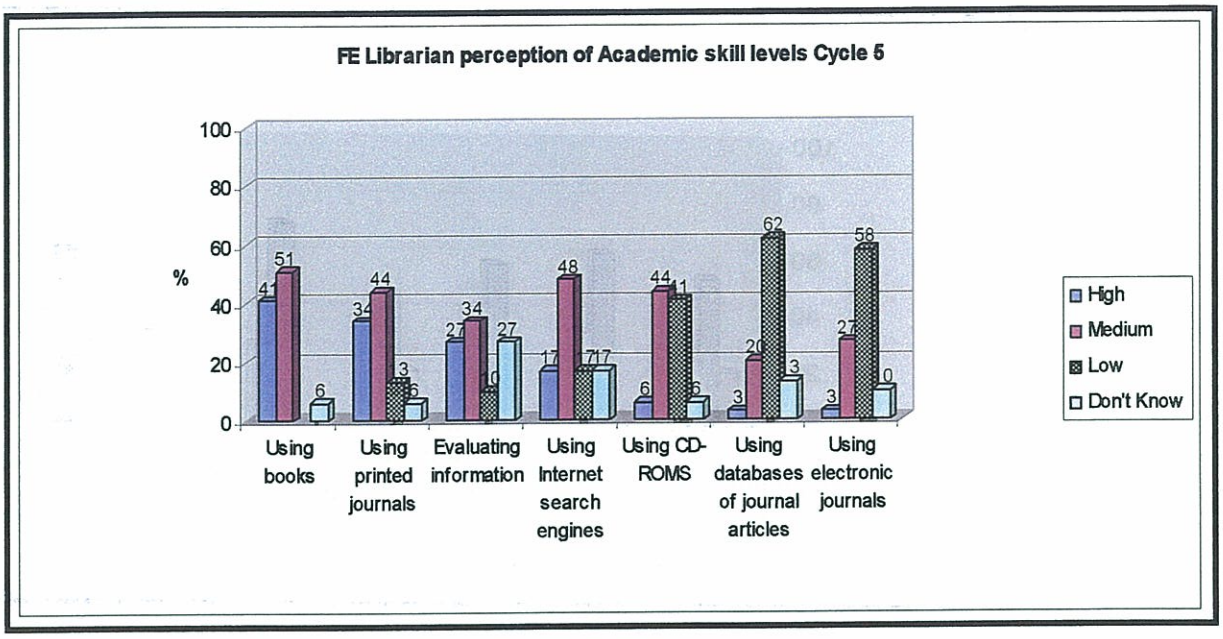


Figure 23

We can compare the perceptions of librarians with regard to the skill levels of the 3 different types of student through the following 3 graphs:

Librarian perception of Foundation Degree student skill levels:

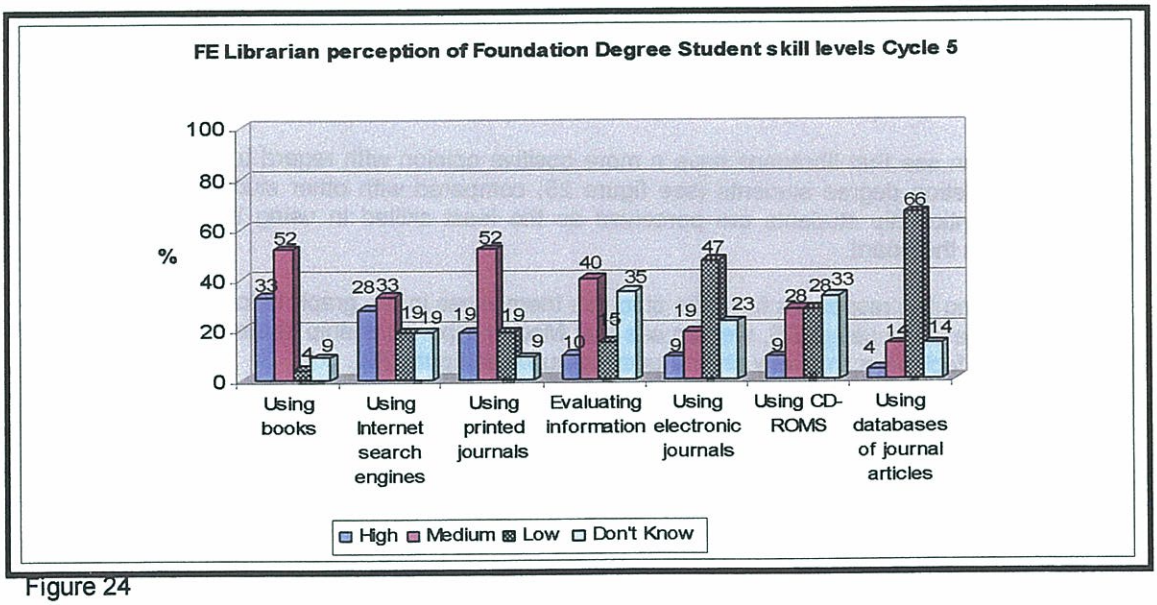


Figure 24

Just a third (33%) of librarians believe that students have high skill levels when 'using books', and 28% believe students possess high skill levels when 'using internet search engines'. Low skills are believed by librarians to be in using 'databases of journal articles' (66%) and 'electronic journals' (47%), 'CD-ROMS' (28%), 'internet search engines' (19%) and even 'printed journals' (19%)

Librarian perception of Modern Apprenticeship student skills:

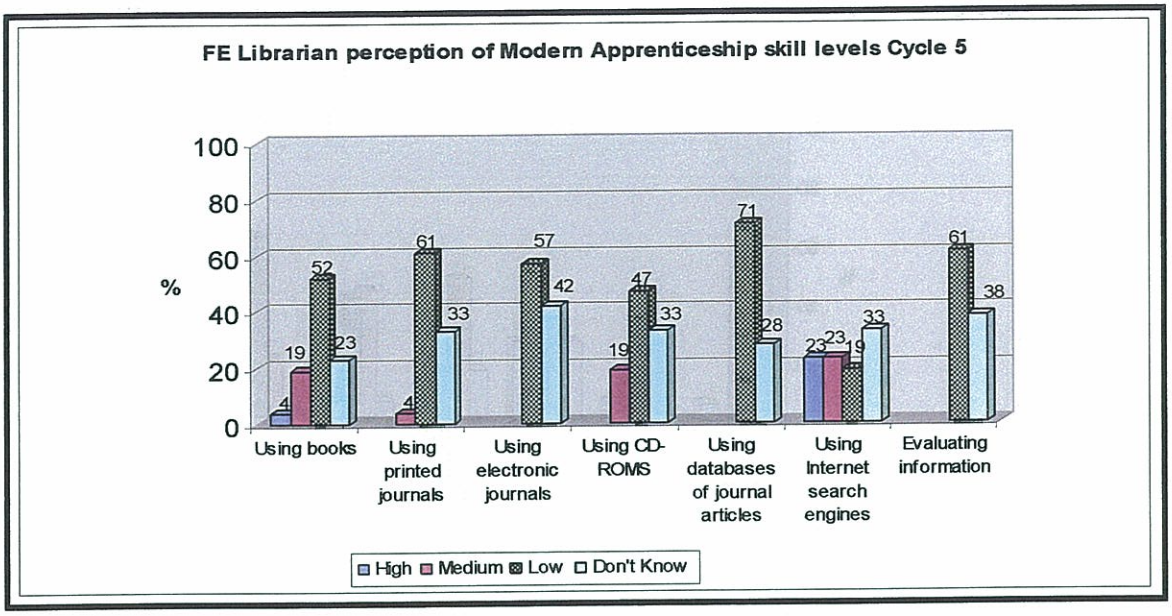


Figure 25

Relatively few of the librarians had the opinion that Modern Apprenticeship students had 'high' skills in using any information source. 23% indicated high skill levels for 'using internet search engines'. The consensus seems to be that this group of students possesses low skills across the board. It is indicated however by many librarians that they just 'don't know' the skills of this group of students. Again, the structure of the Modern Apprenticeship course is that learning takes place in a work environment, not classroom or college based, therefore, librarians are not likely to come into contact with such students as often as other student groups.

We can see that librarians have a more positive opinion with regard to the general skills of Foundation degree students (see figure 25) compared with other student groups. Modern Apprenticeship students are perceived as the least skilled in using information resources across the board.

Ranking the responses from the students themselves in the graph below with regard to their confidence in using EIS, we can see that Modern Apprenticeship students' confidence levels are in fact lower than any other student group (see figure 26).

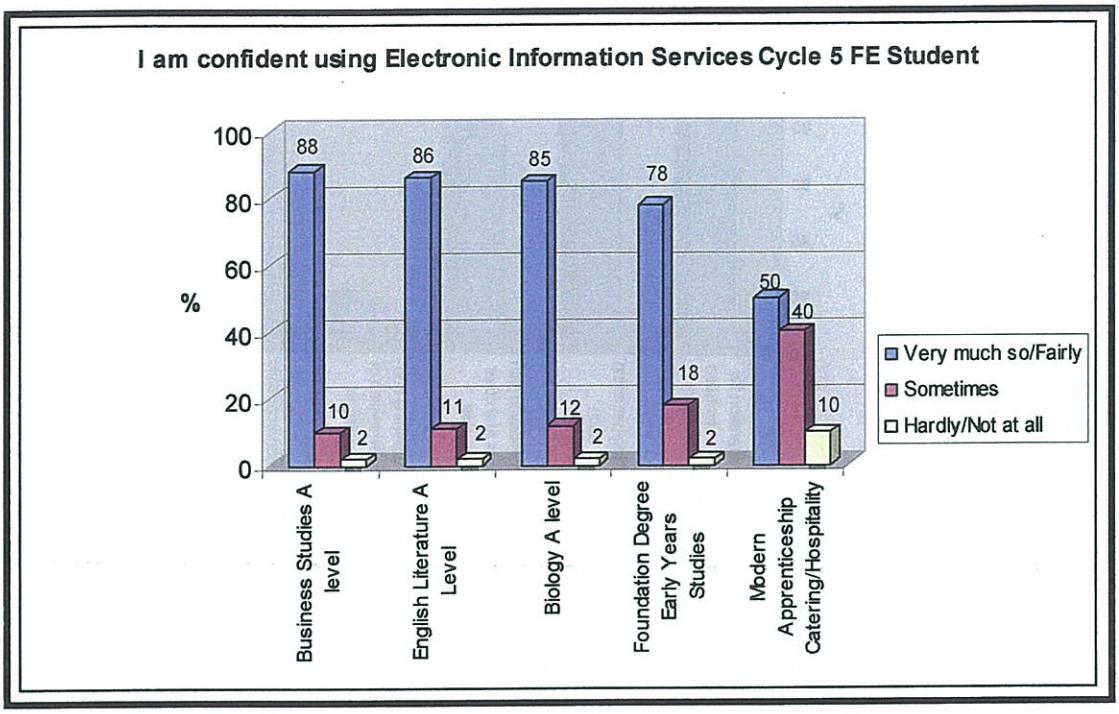


Figure 26

It seems that academic staff feel confident in their EIS use; one third said they were 'always' confident (34%) and nearly two thirds 'sometimes' confident (60%). Approximately one third of academic staff (36%) also indicated that they 'always' 'refer to and encourage the use of certain EIS' even though only a small number (10%) indicate that EIS is 'always' 'required in assessed work' (half of the sample group said it was 'sometimes' required). Of note however is that although nearly a quarter of staff (24%) 'always' raise awareness of how to evaluate the content of EIS, most academics say they 'sometimes' do (54%). What does seem of concern is that 21% indicated that they 'never' 'raise awareness of how to evaluate' information with their students. This has implications for developing student skills in EIS considering students have been found to look to their teachers for training and recommendations - see figure 27.

Information was gathered from academic staff about *what* services were used, however we also gathered information on *why*. Academic staff were given a pre-prepared list and asked to indicate any or all they used.

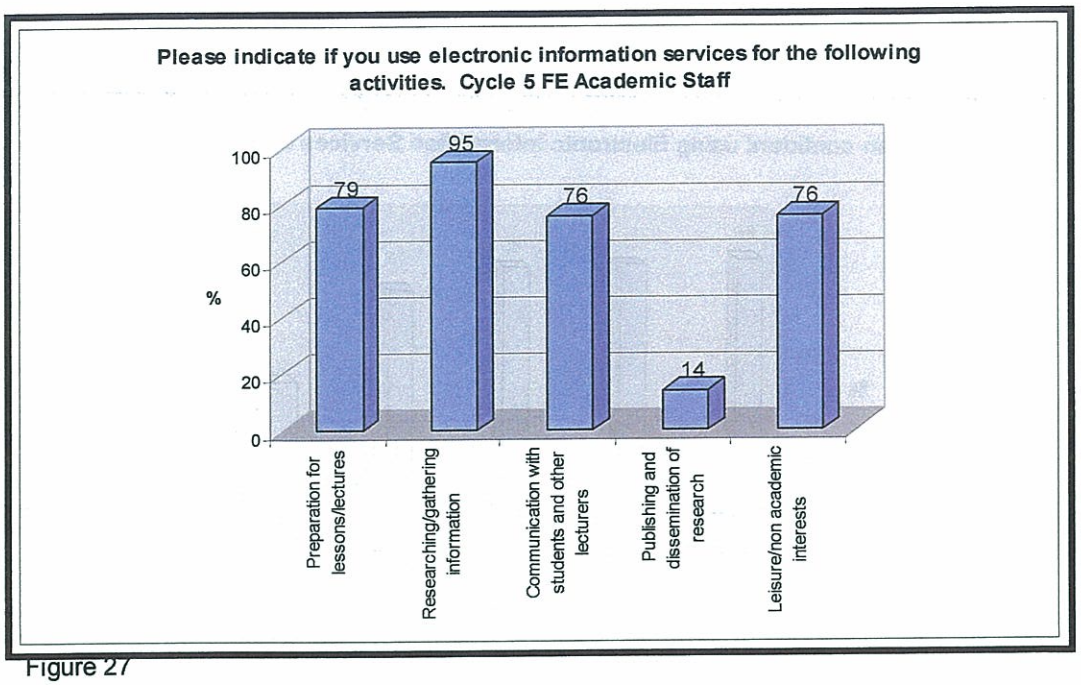


Figure 27

This bar chart shows that of those in the sample 95% claim to use electronic means for 'researching/gathering information'. A high figure was also shown for 'preparation for lessons/lectures' with 79%. Use of electronic means for 'communicating with students and other lecturers' is also noted with 76% of the sample ticking this box on the questionnaire.

51% of the academic responses indicated that they use Blackboard or a similar virtual learning environment. During case study interviews it was found that were a Virtual Learning Environment (VLE), such as Blackboard had been established many academic staff used this to provide lecture notes and links for their students. Many academic staff felt a VLE offered many advantages to their students: for example catching up on missed lessons and for revision purposes. Focus group comments from students during interviews were that they appreciated this practice as even if they missed a class they could still obtain the full teacher notes. Students told how they also use it to contact their teachers.

5.3.3.1 QUALITATIVE RESPONSES – USER BEHAVIOUR

THE FOLLOWING SECTION IS AN ANALYSIS (IN NOTE FORM) OF THE QUALITATIVE DATA GATHERED DURING ACADEMIC AND LIBRARIAN INTERVIEWS AND STUDENT FOCUS GROUPS IN RELATION TO THE 'USER BEHAVIOUR' THEME AT CASE STUDY SITE 2 -

As discussed in the Access section the Librarian at site 2 says there is a general awareness within the library that some students do not use the computers solely for scholarly activity and they address this through various schemes. Librarians will physically walk around the library and anyone found accessing inappropriate sites will be challenged and disciplined if necessary. Further more students are now assigned a computer rather than having free access.

When discussing academic skills the following comment explains the feeling at site 2 *"we still see staff with poor general IT skills, we still have staff who we seem to find it difficult to explain what an ATHENS password is, they seem to think that ATHENS is something"* - Librarian site 2, this type of experience is seen as a barrier to embedding EIS use. Equally student skills

This site (2) are developing a virtual learning environment within the college which some staff have embraced, although from discussions it seems to be used at these early stages as a repository for lecture notes *"we're trying to develop Blackboard... [some] staff have had some training in it"* biology academic 2

Use of VLE by staff increasing – librarian site 2

Not all staff are aware of the college VLE however, when asked IS THERE A VIRTUAL LEARNING ENVIRONMENT HERE AT THE COLLEGE? The reply was *"I wouldn't have thought so, I wouldn't have put it that strongly. There is a lot of e-learning going on... probably as a teacher I'd have serious reservations about that anyway"* business academic 2

LIBRARY ABOUT STUDENT SKILL *"we are surprised that relatively young students can't access their e-mails, or web accounts. They've managed to set themselves up with a Hotmail account, but they can't actually access the messages..."*

Some enjoy using computers others have said *"oh no, not another session on the computer!"* Biology academic 2

We can use journals like New Scientist *"We don't tend to use the Library a lot, because I tend to find out certain information myself, go onto Google..."* biology academic 2

"...it helps me for preparing class notes...I do a lot of powerpoint presentations biology academic 2

Academic opinion is that student confidence is varied and that students seem reluctant to ask for help – *"we can tell those that watch the others use it and sit back and sort of ..."* biology academic 2

Academic staff recognised that some students have difficulty evaluating the data they retrieve from the computer *"a lot of them just copy everything that they see..."*biology academic 2

"it gives more variety to teaching, less chalk and talk" (using powerpoint) biology academic 2

Changes to teaching practice in the form of EIS use has been driven recently by an OFSTED inspection librarian 2

A further driver for using electronic information services is the college strategy to have 10% of lessons using IT biology academic 2

Q – DO YOU HAVE SUFFICIENT ELECTRONIC RESOURCES FOR YOUR COURSE AND YOUR STUDENTS?
"there's some good web sites, which I'm still on the learning stage about myself to be honest. There is stuff, yeah, that can be accessed... To be honest, I need to do some more training on improving my skills on that... I'm sure the systems are there, it's a question of learning how to access them and having the training to make the best use of them" business academic 2

uses college intranet to access student records business academic 2

Although academic staff recommend useful web sites to their students, the students themselves recognise that they don't need to go much beyond the books that are used for the course. Biology students 2

Google seems a favourite search engine biology however students told that they still had a heavy reliance on books for their coursework indicating about 95% for books and 5% of their time spent using computers. student 2

Although little use is made of the internet the students showed some awareness of having to be critical of the content. Biology students 2

No use of Blackboard - biology students 2
Business students at site 2 tend to use books and perhaps the internet, favouring Google, and also for accessing past papers for revision purposes. *"When I am at college I use books and things like that but when I'm outside of college I use the computer more"* this would emphasis the need for training in critical evaluation techniques. Business student site 2.

Business students site 2 – don't access college site from home – they don't think you can. Many didn't know there was an intranet, but others have used it to access exam timetables. Not entirely happy with internet searching – *"the internet is incredibly big and full of crap... you get lots of pop-up adverts and no information whatsoever" business student site 2*

Foundation Degree academic site 2 Problems with accessing university sites - Academic and students have used the PCs in a workshop at the college to remotely access the university facilities but unsuccessfully.

Foundation Degree academic when asked what it was like accessing the colleges EIS for their students they didn't know what experiences the students had had with the college services and personally felt that the college services had not been very helpful for their own needs *"I know they have accessed the information services via X University".* Foundation Degree academic site 2

Foundation Degree Academic site 2 uses college intranet, but only to access forms and to check on quality issues Foundation Degree academic site 2

Foundation Degree academic site 2 – correctly assumed students were not very proficient in using EIS

Time is a big issue for the foundation degree students many of them adult returners to education and therefore not that experienced with using computers – they have been working all day, usually with children, many need to sort out child care, get home from work, eat, get to college for 6 and leave at 9pm

Foundation Degree students site 2 all have used the library but none to use the computers, some explaining they find it intimidating, or it is always full. Foundation Degree students site 2

Foundation Degree Students focus group site 2 When asked what sorts of electronic resources they were using for their college work, students answered *"the Internet"* which they access in the workshop that lessons take place in on the evenings that their classes take place. Students were varied in their preferences as to *where* they accessed the Internet, some from home and some from the workshop, but none of the students would access from the library.

Foundation Degree students focus group site 2 use of resources 90% book 10% internet, 70/30% and 90/10% in favour of books.

Foundation Degree students site 2 recognise the need to evaluate the information they get from the internet and are therefore more likely to use a book due to its perceived reliability. One student preferred the flexibility of using a book as opposed to the Internet *"you could search on the internet all day...you could pick up a book and you would find something related to what you were looking for, even if it was just a small chunk out of a book."* Foundation Degree student site 2

Foundation Degree student site 2 When asked if they were confident using computers some felt *"not at all"* whilst others felt that trying to use particular resources such as electronic journals was beyond their capabilities or *"above my head"*. One student related how they still do a first draft of work they are producing by hand on a piece of paper, because they don't trust the computer not to lose it and how their partner has been instrumental in helping them with technical difficulties when using the computer at home.

Foundation Degree students site 2 – no IT support after 6 pm, they are on an evening course so are often stuck for help

Foundation Degree students site 2 given lap tops but they all had problems getting in to them and problems getting in touch with the suppliers, eventually one students' boyfriend contacted someone for them and got them sorted out

Foundation Degree student site 2 – consensus that accessing University site was *"too complicated"*. One student had revisited the campus to access books but didn't try to get on the PCs

Foundation Degree student site 2 rarely use the college electronic facilities, usual to go to Google. One comment was *"I don't use that [the college website] a lot, I prefer books so I don't want to be on their website, I want to be straight in, get the information straight off and go"*. Foundation Degree student site 2 one student believed that if they were full time they may spend more time gaining confidence using the computer feeling it to be too time consuming, one comment in regard to trying to remember 2 separate procedures and passwords *"I don't want to have to keep remembering things like that. I just want to come in, do my work and go home"*. These students seem to have been put off accessing electronic information as following the training session at the partner university they tried to access the site several times without any success. Foundation Degree student site 2 After experiencing so many problems in trying to access the partner university site one student told how they used a family members password to gain access which would seem to indicate that the problem did not lay with the users. Foundation Degree site 2

Foundation Degree students site 2 students say they lack the time to physically go to the partner university campus – problems expressed are that in the winter they would be moving around unfamiliar places by themselves, sheer distance from where they live and not knowing how to get there

English Academic site 2 – feels that students should not rely too much on computers, and believes that for this discipline the students should not be relying on other people's opinion but should be encouraged to formulate their own. This teacher very rarely uses EIS themselves, and does not understand VLE or recognise 'Blackboard' as a vle and rarely uses the college intranet (has found it problematic).

THE FOLLOWING SECTION IS AN ANALYSIS (IN NOTE FORM) OF THE QUALITATIVE DATA GATHERED DURING ACADEMIC AND LIBRARIAN INTERVIEWS AND STUDENT FOCUS GROUPS IN RELATION TO THE 'USER BEHAVIOUR' THEME AT CASE STUDY SITE 1 -

As with site 2 at one centre of site 1 that generally handles vocational course work, it has it's problem students visiting inappropriate sites and sending inappropriate e-mails. Librarian site 1

Printing is free for one document - librarian site 1

"*The drive towards e-learning is definitely one of the biggest. Our Blackboard VLE is widely used by most courses in the college and students are encouraged to use it...*" librarian site 1

Uses Google for searching *"it has become a habit"* Biology academic 1

When discussing evaluating techniques one academic noted that they used their own judgement, but they would alert their students *"I was just telling my students this morning that if they get any information from a web site by a guy called Kevin, then ignore it!"* This academic told how often material that was found on the internet was too complex for the level of study required by their students. Biology academic 1

Blackboard use for one biology academic was 'seasonal' often spending lots of time developing and maintaining the material, but also monitoring its use by students in the discussion rooms "*making sure it is all clean and above board*" biology academic 1

The number of 'hits' on blackboard are monitored so student use can be assessed and found to be lacking. Slowness of network has been one complaint by students and this is acknowledged by staff. It has been noted that some students do access Blackboard remotely - this is known because access has been outside library hours. Biology academic site 1, business academic site 1

"*Most students are computer literate, they can find their way round better than staff*" biology academic 1

Access 'Columbus' for student records – biology academic 1

College newsletter issued weekly – not always read though – biology academic 1

BLACKBOARD USE – site 1 - embedded into teaching model – well used by all subject disciplines – academic staff use would trigger extra merit payments so this encouraged widespread use by academic staff but there are still small pockets of minimal use - business academic 1

- announcement page for any new resources
- students print lecture notes – prior to attending class so they can follow easier
- independent study guides
- power point slides
- gateway to web links
- staff can check student progress and monitor use of blackboard by students to check whether notes are being printed off prior to a lesson – this can be used to see maybe why a student is achieving low grades – business academic 1
- interactive use – on line quizzes for students

LIBRARY OPINION OF STUDENT site 1 *"one of the biggest problems is that there is a lack of awareness of the electronic resources available to the students"*

At site 1 most full time students use blackboard and the many of the part time. The vast majority of staff should have had staff development sessions on the use of Blackboard – library site 1. At site 2 Blackboard is still in the development stage.

Varied student skill levels depending on previous experience before coming to the college. It also depended on the attitude of the teaching staff whether they felt it was important that their students had induction sessions with the library staff and this would impact on the student's experience of college life. This didn't seem to be universal, but *"it varies from faculty to faculty"* library staff site 1. Student use of EIS it seems *"depends on the importance the teaching staff put on the services really"* library staff site 1.

Academic concern over the possibilities of increasing plagiarism with the availability of web sites offering coursework assignments for a fee. Recognising it could become a problem the issue is discussed in team meetings – Staff vet sites they are referring their students to and students are taught to evaluate and be *"critical in the use of electronic systems and that they have got to be aware of what the origin is"* business academic 1

Library staff often receive comments from teaching staff that students have cut and paste whole chunks of information without actually having read or made sure it was relevant to their assignment – library site 1

Librarian warns of a possible danger of students being over reliant on EIS and that students forget about books *"they do forget that it [the internet] is not the only information source available"* librarian site 1

Business students 1 – are aware of being critical of the information they retrieve from the internet. One student said that they had *"never gone on the internet looking for any stuff, I've always just used the books"* adding *"they are really reliable"*

Students business 1 use mainly blackboard for lecture notes and internet for A level revision sites, s-cool.co.uk, tend to find sites through Google. Other work is done using books from the library for their business course. Not all students are as confident of using the internet as some academic staff believe, one student used only Blackboard which students generally felt was *"definitely useful"*, but believing there was maybe more on the internet but that they just didn't know about it. Students claimed to be comfortable with using electronic information services but some just prefer using books for any work that needed doing *"I'd go to a book first"* or *"I'd usually use the internet first but if I find a lot of waffle on a subject I will turn to a book because it is quicker"* Business student 1.

An advantage to using Blackboard noted by students is that it has staff e-mail and telephone numbers so they can contact staff when they have problems. Business student site 1 Although Biology students seem to use Blackboard more than Business students.

Biology site 1 student did not recognise the terms 'electronic journal' or 'on-line database' and even queried what a 'journal' was, the main resources they used were internet search engines, usually Google and CD-ROMS

Biology students – use blackboard both at college and remotely from home. One student explained the Blackboard as *"it's like you can email each other on like Blackboard just using the computers and have discussion groups"* However it was also revealed that not all students use this e-mail facility, preferring their own. Students also told how they find the links from Blackboard useful but they do search on their own as well. Often recommending sites to each other as they all work alongside each other. Site 1

Biology students recognise the need to be critical of information from the internet they feel that common sense will prevail and tend to trust sites such as BBC and if a site had been written by someone with a PhD. Other students said they would double check with a text book. Biology student site 1

Teacher is enthusiastic about the subject and that encourages the students to do their own additional research biology student 1

Students felt that sometimes there was not enough space to sit down in the library and revise, so they will try and work on a computer so they can have somewhere to sit because all the tables are full. Other than that if a student wants a quiet place to work they have to go home – biology student 1

OVERVIEW OF MODERN APPRENTICESHIP INVOLVEMENT

Modern Apprenticeship turned out to be valuable in that it is not a very suitable participant in this research – the students are work based primarily and therefore work is more 'hands on' than theoretical. The academic abilities of the students mean they are less likely to access anything other than recommended sites and the internet. Academic staff are not likely to recommend sites to students as the course is more 'hands on'... Of the students seen at the pilot study site, they have very few computer skills other than searching the internet for sites wholly inappropriate for academic work. Academic staff are concerned with students meeting the level of attainment needed for the course and no more - me

Academic staff on the Modern Apprenticeship course (MAp) site 1 uses internet to access Learning and Skill Council network, anything to do with the Modern Apprenticeship framework on a weekly basis

MAp - Learning resource centre at this particular site is quite small with 2 staff site 1

MAp academic interviewee believes their students probably use EIS the least as their course is work-based learning – no real need to - MAp site 1

MAp academic interviewee - no real liaison with library staff as yet – this course is a new venture for the college – site 1

Map academic site 1 Students are given an induction within their work place, advising them of many things including the resources available to them in the library – map site 1

Map academic site 1 – no real training given by college, looks to colleagues for help

Map academic site 1 plan is that students will access Blackboard in the future

5.3.4 INTEGRATION

The working definition of 'Integration' used for this project:

> use of EIS is studied, alongside examination of the incorporation, embedding and use of EIS in courses and curricula

There appeared to be two main sources that academic staff used when learning about useful electronic information; 'recommendation from colleagues' (89%) and 'own research' (83%). A significantly lower number of academic staff said library staff were a source of information (42%)(see figure 28).

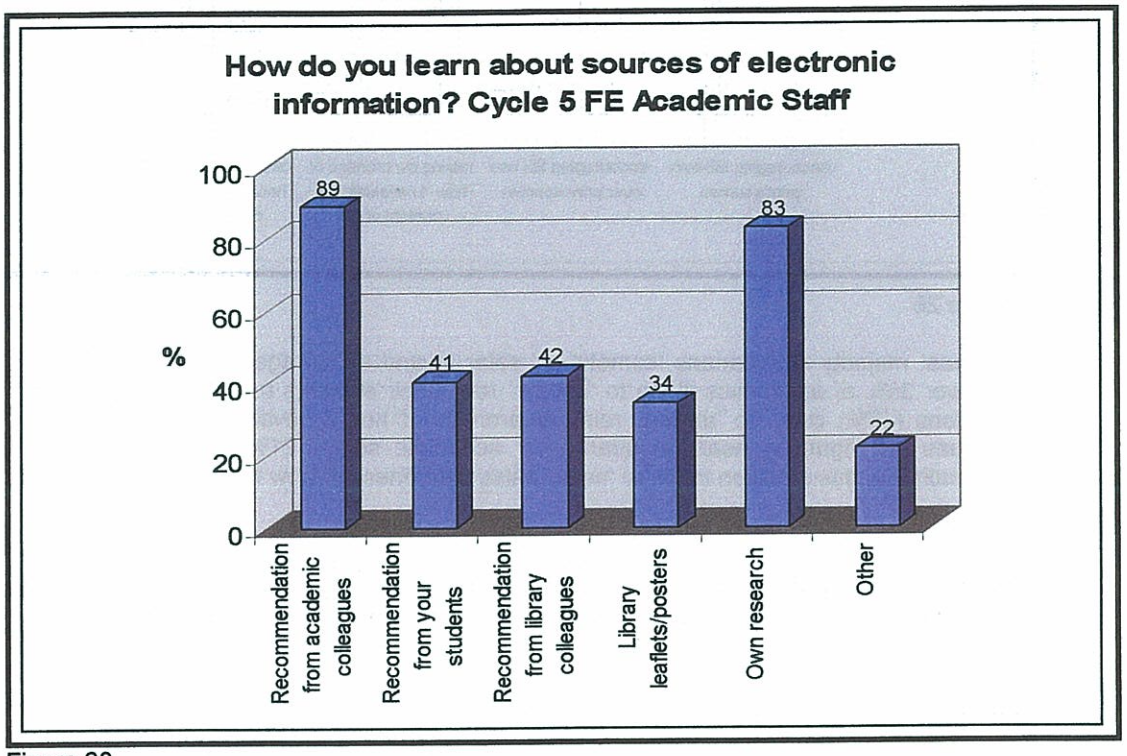


Figure 28

Furthermore, according to cycle 5 respondents, FE academic staff seem to use recommendations from students just as much as recommendations from library colleagues. This minimal use of librarian staff expertise could be why only 15% of staff felt they could 'always' find it easy to 'obtain reliable and accurate information using EIS', as the vast majority (78%) answered 'sometimes' to this question (see figure 28).

Both librarian and academic respondents were asked to give their opinions regarding integration with students and their use of EIS. The graph below shows by comparison the results:

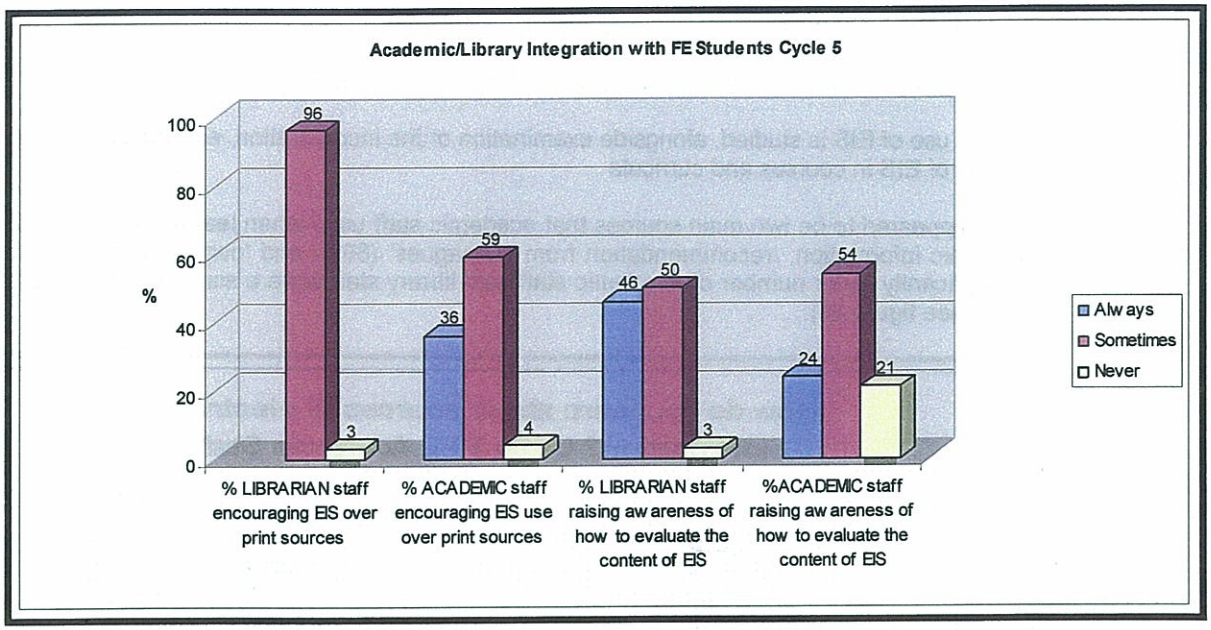


Figure 29

The vast majority of librarians 'sometimes' refer to and encourage the use of certain EIS, however 36% of academics claim to 'always' refer their students to EIS. Nearly half of the librarians (46%) claim to 'always' raise awareness of how to evaluate the content of EIS whereas this figure is nearly a quarter for academic staff. 21% of the academic staff responding to this question claim to 'never' raise awareness of how to evaluate the content of EIS.

The findings for where students learn about electronic information have been ranked in order of result (see figure 29) the graph below shows all the details, but briefly we see that:

Students –

- Learn from those they have most contact with i.e. their teachers, their peers or through their own research
- Believe organised training sessions featured only insignificantly
- Indicate library involvement as 'slight' in comparison to teachers and peers

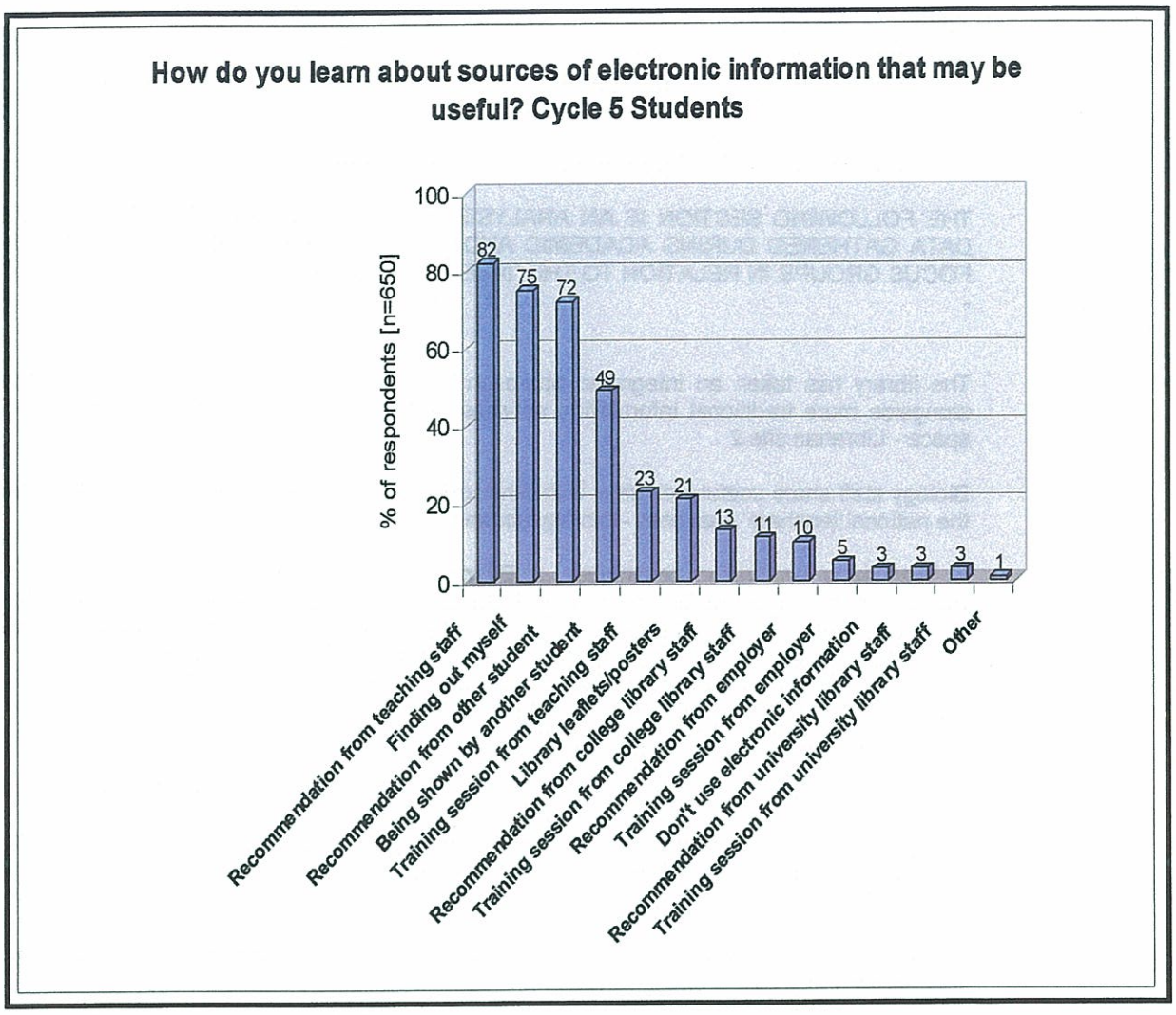


Figure 30

We can see that recommendation from university library staff received only 3% of the student vote, however 21% of the sample are Foundation Degree students and therefore entitled to University access and training. Reasons offered during focus group sessions, echo those mentioned previously such as 'University too far from home', 'difficult to get to' and 'lack of childcare facilities'.

When examining the data, by discipline, for 'college library staff' involvement in learning about sources of electronic information, the following % of students indicated 'college library' –

- English Literature – 18%
- Foundation degree – 15%
- Business Studies – 11%
- Biology – 9%
- Modern Apprenticeship – 5%

Our analysis further shows that students actually make more use of 'library leaflets/posters' than 'college library staff'.

These findings suggest that in stark contrast to the culture evidenced in most Higher Education case study sites, in these Further Education colleges library staff do not appear to be as central to raising academic and students' awareness of potentially useful EIS.

5.3.4.1 QUALITATIVE RESPONSES – INTEGRATION

THE FOLLOWING SECTION IS AN ANALYSIS (IN NOTE FORM) OF THE QUALITATIVE DATA GATHERED DURING ACADEMIC AND LIBRARIAN INTERVIEWS AND STUDENT FOCUS GROUPS IN RELATION TO THE 'INTEGRATION' THEME AT CASE STUDY SITE 2 -

The library has taken an integrated approach to providing electronic information services alongside more traditional information services such as books and journals within the one space - Librarian site 2

Biology staff share useful web sites with other colleagues - biology academic 2 and often use the national teachers' chat lines - biology academic 2

In discussing evaluation techniques a Biology academic staff member said that the information they required for their course was not expected to be too high level and that they could use their own judgement. Comments were also made that web sites are usually recommended to students and students are encouraged to go beyond using the set textbooks, however the textbooks are sufficient for A Level courses. Students have Key Skills lessons and so this academic staff member felt they were competent enough *"it's more like they're showing me!"* - biology academic 2

A business academic at site 2 encourages students to search on the Internet for the latest information and considers the students to be confident and proficient - business academic site 2. when asked 'DO YOU SHOW YOUR STUDENTS HOW TO USE ELECTRONIC SERVICES?' they replied *"My goodness no, they'd be showing me!"* - business academic site 2

Some students confirmed during a focus group session that academic staff do recommend Internet sites - biology students site 2.

Foundation Degree academic site 2 does not recommend electronic services to students and has not set assignments that require particular EIS access -Foundation Degree academic site 2.

Foundation Degree academic interviewee at site 2 has shown students how to access EIS at the partner university however it did not prove successful – Foundation Degree academic site 2.

English academic site 2 – does recommend some sites for a particular assignment, but does not show students how to access this and does not know how proficient the students are in accessing EIS – English academic site 2.

THE FOLLOWING SECTION IS AN ANALYSIS (IN NOTE FORM) OF THE QUALITATIVE DATA GATHERED DURING ACADEMIC AND LIBRARIAN INTERVIEWS AND STUDENT FOCUS GROUPS IN RELATION TO THE 'INTEGRATION' THEME AT CASE STUDY SITE 1

The librarian feels they are more likely to be showing students how to access EIS. More mature students tend to be the ones approaching the library staff for help – library staff site 1 Librarians provide training for students and help guides for new services – librarian site 1

DO YOU THINK TEACHING STAFF HAVE ANY INFLUENCE ON STUDENT USE OF ELECTRONIC INFORMATION SERVICES? "*not really no, I don't think they do. I think students find their own way of dealing with the information and where to find the information*" - librarian site 1

During an interview with one member of biology staff they said they often recommended useful web sites to students – biology academic site 1. Staff have also recommend sites they have vetted to students from the business school – business academic 1

Some academic staff encourage their students to e-mail them with any problems they might be having – biology academic site 1

College newsletter is produced by the E learning manager updating staff on new developments and alerting staff to new opportunities - biology academic 1

Academic staff encourage students to use Blackboard and internet to further their studies – biology academic 1

Blackboard used as a repository for Power point displays, lecture notes, study guides, web links - business academic 1

5.3.5 TRAINING & LIAISON

The working definition of Training and Liaison for this project:

Training: EIS Training and awareness raising activities.
Liaison: Levels of collaboration between academic, library staff and other parties.

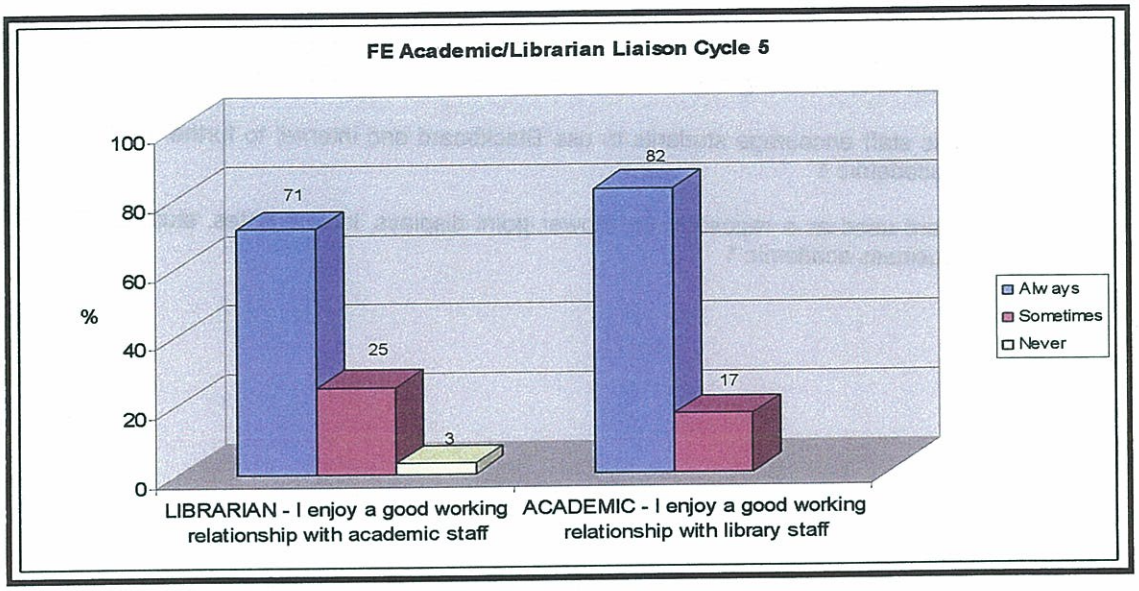


Figure 31

We can see that for the majority of library and academic staff a 'good working relationship' is enjoyed. There is some acknowledgement on both sides however that this is only 'sometimes' felt by a few of the respondents (25% and 17% respectively). Comments have been made during pilot study interviews with both academic staff and student focus groups that some library staff had developed a culture of 'unapproachability'. This was believed to be as a result of having to develop techniques of 'dealing with' some 'less than studious' students who do not always treat the library's facilities with respect. Unfortunately this unapproachability is felt by other groups of students and academics alike.

Librarians were asked about training opportunities they provided for staff and students:

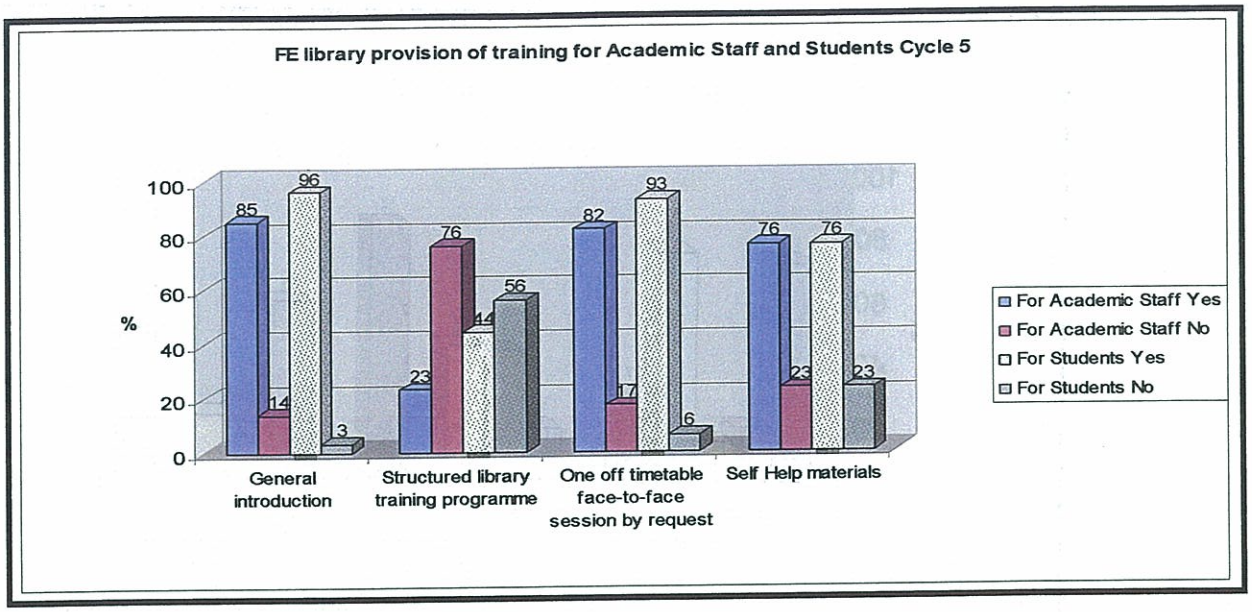


Figure 32

We can see that librarians do tend to offer general introductory sessions for staff (85%) and students (96%). Some students, during focus groups, described their introductory sessions as being a general introduction to using the computers in which the librarian 'told' them how to do things in a lecture type setting. Some students felt that this method didn't suit their learning styles and they would have preferred a more hands-on approach. The vast majority of librarians also provide 'one off timetabled face to face sessions by request' for students (93%) and staff (82%).

We can see that some librarians do not provide some training sessions – 14% don't provide a general introduction for academic staff and 76% don't provide 'structured' sessions for academic staff nor students (56%). For the librarians answering this question nearly a quarter indicate that they do not provide self-help materials for staff or students (23% each).

Further Education academic staff were asked about their experiences of receiving training in the effective use of electronic information services by library staff. The graph below provides an insight into training offered and taken up. The low figure shown for 'participation' in 'training sessions from a partner university library' are due to these sessions being offered to colleges where they collaborate with Higher Education establishments in providing Foundation Degrees and in many cases this question was not relevant. We can see that not all staff believe training is offered by their employer (12%) and nearly a fifth of those answering (17%) said there was 'no' training offered.

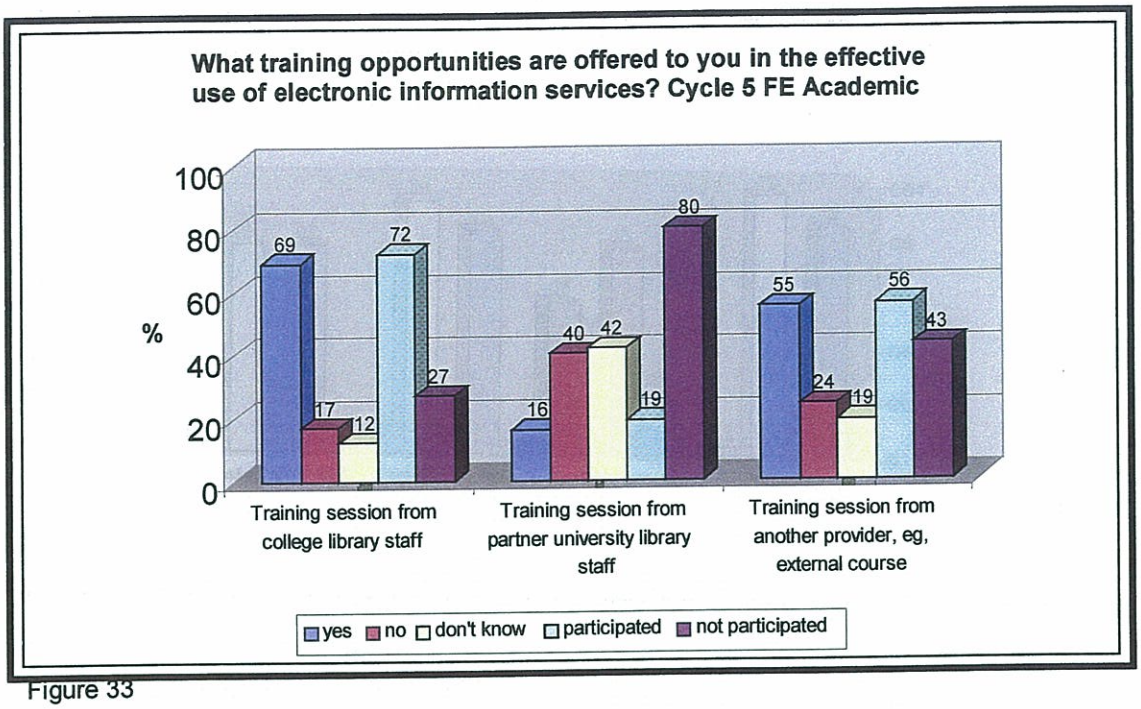


Figure 33

Evidently 69% of the respondents answering the question said that there was a training session from college library staff and 72% of those answering said they had participated, 17% of the academic respondents said there wasn't any training session from their college library staff. No one discipline had 100% attendance. External training 'from another provider' was very well attended by staff from the biology department with 11 of the 16 members of staff indicating attendance. Many staff during interviews have claimed they wished they had better skills – however they complained of a lack of time to partake in training offered. During case study interviews staff have claimed that training tends to be offered during teaching periods and there are no other staff members to teach their class or that staff would feel uncomfortable asking colleagues to cover for them.

At one case study site staff training was compulsory and set training days were allocated outside of teaching periods.

Significantly, as discussed above (see figure 30) students do not consider library training sessions (11%) as a major basis of learning about useful information sources, instead relying on their teachers' training sessions (23%) and more commonly being shown by another student (49%).

Continuing the theme of 'training,' all the respondents were presented with lists of varying options and asked who, in their view, did they feel were responsible for training students in the use of electronic information services. The results make interesting reading especially when shown in comparison:

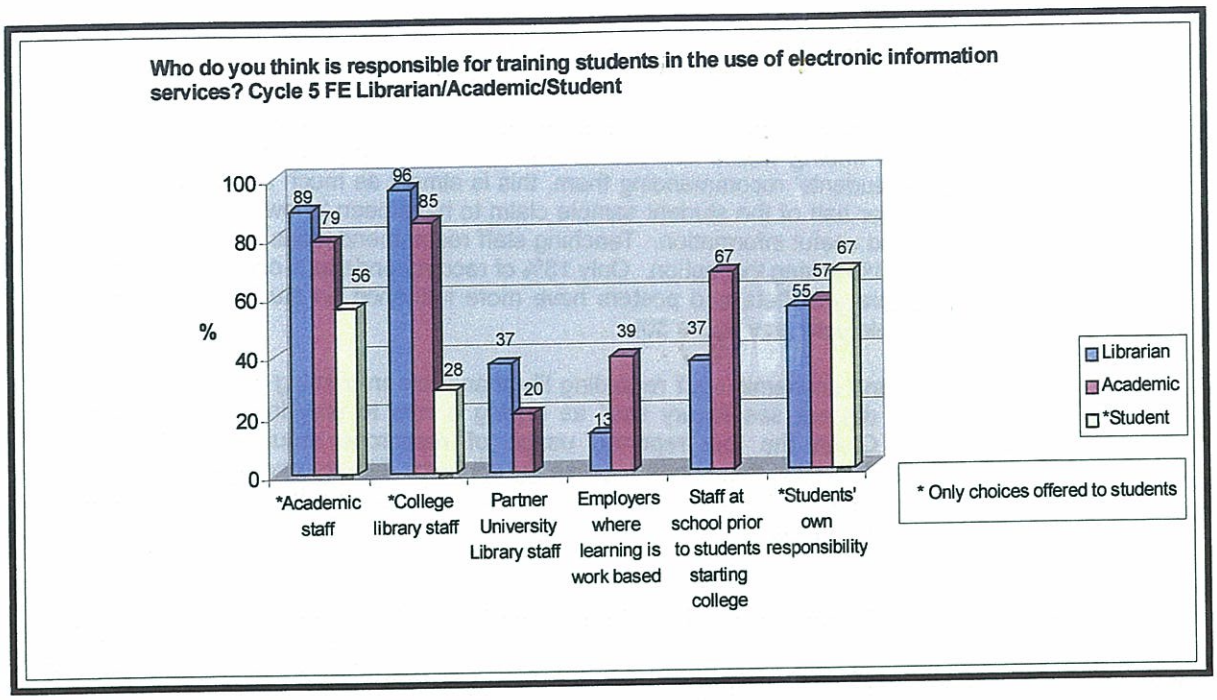


Figure 34

In brief, the graph above indicates the following:

Librarian responses –

- 96% of librarians believe themselves responsible. Additionally a very high number (89%) also believed academic staff were responsible.

Academic Staff responses -

- A high figure was given by academic staff for the 'college library staff' (85%) being responsible for student training. Quite a large proportion (79%) of the sample (equally spread between disciplines) ticked 'Academic Staff', i.e. themselves! 43 (67%) academic staff indicated that 'school prior to starting college' was also responsible.

Student responses –

- Students are less likely to believe 'library staff' are responsible for training them (28%) than academic opinion (85%). 'Other' sources of training have been indicated by students such as 'parents' and as some students are likely to be only 16 this is not surprising.

In comparison, 'students' own responsibility' features highly by all 3 groups of respondents; academic staff (57%), librarian (55%) and students (67%).

This graph shows a comparison of all three groups in the survey i.e. FE Academic staff, Library staff and Students. The comparison is not complete as students were not asked about partner university library staff, employers and school prior to college. However we can see that the students consider themselves as the main source of training with their teachers being the next source of training. Some students do however cite employers as being influential in 'recommending useful sources' of electronic information (10%) (see figure 34). Students also claim that their teachers are more influential in passing on useful electronic information sources in training sessions than librarians (23%/10% respectively) (see figure 34). College library staff barely account for a third of student choice (28%) for training in EIS

use. Librarians are shown to consider academic staff as being almost as responsible as themselves (89%) for training students in EIS use.

Aside from training, as discussed in the 'integration' section of this report, students' peers feature highly in finding useful sources of electronic information with 72% of the sample claiming 'other students' recommending them, this is almost as much as 'finding out myself' (75%). Just under half of the student sample claim to have been 'shown by another student' (48%) how to find useful information. Teaching staff recommendations are seen as the most influential with 81% ticking this option. Only 13% of recommendations come from library staff, it seems that library leaflets and posters have more influence on student choice receiving 21% of the sample vote (see figure 30).

Despite library and academic staff regarding librarians role in training students highly, most students (72%) did not see library staff as having a role to play in their own EIS skills development. Given the low reported usage of resources requiring more advanced information seeking skills, this appears cause for concern. Library and academic staff must consider and understand each other's roles and responsibilities in raising students' awareness and skill levels.

5.3.5.1 QUALITITATIVE RESPONSES – TRAINING AND LIAISON

THE FOLLOWING SECTION IS AN ANALYSIS (IN NOTE FORM) OF THE QUALITATIVE DATA GATHERED DURING ACADEMIC AND LIBRARIAN INTERVIEWS AND STUDENT FOCUS GROUPS IN RELATION TO 'TRAINING' AND 'LIAISON' THEMES AT CASE STUDY SITE 2 –

General staff training is available for academic staff at site 2 through 5 compulsory training days in the college, days in which no students attend. Staff choose from a variety of different activities depending on their needs or interests. These training events are in groups or on a one to one basis and involve events such as Blackboard, Powerpoint, intranet use and interactive whiteboard skills. External training sessions are also on offer to staff. The overall strategy of assisting the college in moving towards a more electronic delivery phase is being made by the librarian staff through training and awareness events offered to staff by linking their services to the ILT unit events which tries to offer lunchtime and twilight sessions. Librarian staff are proactive at staff induction periods, seeking out staff and offering their services – librarian site 2

Librarians themselves received regular training once a week when the library is closed to students until mid morning - librarian site 2

Students have an induction programme with librarians and in Key Skills organised through personal tutors - library site 2

Additional inductions in more specific services are offered but not always taken up "*I think it depends very much on the academic member of staff, how much they value it*" - library site 2

Biology focus group students explained about their experiences of the induction day at the library "*Can't remember anything the librarian said, I was just too bored*" - biology students site 2

There was a mixed reaction to the key skills programme they had received, with some being enthusiastic about what they had learnt and others feeling that they already knew most of the things they were being shown – biology student 2

Students can have one to one tuition with librarians on request – librarian site 2

There are lots of training opportunities for academic staff and the experience has been mixed. IT teachers are found to be very helpful, however an issue seems to be that although staff recognise they need updating on their skills, they do not always have the time to attend

training; *"they do offer more things, but they're often at times when I've got lessons so I can't get cover for lessons, so I can't attend"* business academic 2

Hasn't had any training on electronic journals – library staff are helpful business academic 2

Foundation degree staff and students have had training at a partner university, academic staff found it useful. Foundation Degree academic site 2

The Foundation Degree students at site 2 experiences of training with the partner university were not as positive as the academic experience, the majority of the students attended the training session and the academic member of staff noticed some of the students leave before the finish: student comment - *"we went one night time and we were so tired that it was just way over our head. We came in at six o'clock obviously having done a full day support work with children and it was so intense. We had to have photographs taken then we had to have a look round the library and then we had to go in for this talk and we were cleaned out by then. It was about 7 o'clock at night when we got this talk. It was just too much." Foundation Degree students site 2* Some students are dismayed by their own lack of ability *"I get frustrated because I think there's a lot more options that you could use on the computer, which I am not sure of ."* and *"we are missing out on a lot"*, but not all students have faith in, or want to use the computer *"it doesn't interest me in the slightest... I would love to be able to just do a lesson with them [my lower ability children], but like you say it is getting on, it's time consuming, it's hoping that nothing goes wrong..."* – Foundation Degree student site 2

Foundation Degree students training in the college library – some students got more out of it than others demonstrated by comments such as *"we went to the library for about half an hour and that was it"* and *"she gave us information cards though didn't she which explained it in a step by step way..."* consequently some students have gone on to try and access sites using the ATHENS password and others haven't.

Foundation Degree academic has given some additional instruction to students showing them how to access electronic information services originally shown by the partner university - Foundation Degree academic site 2 but commented that they tend not to have kept up with using the sites they were shown, adding, *"I think it [the training] was quite helpful but I think probably there should have been more time allocated really."*

Foundation Degree Academic site 2 has given students instruction on preparing Power point slides which the students find extremely useful.

Foundation Degree Academic – is attending training on how to use Blackboard (though it isn't up and running yet) Foundation Degree site 2

English Academic site 2 Issues with training seem universal as this academic explained problems they had whilst undergoing training sessions feeling that the person running the session *"will whip through it very quickly and doesn't carry all the students like us with him or her. Kind of assumes knowledge that we don't all have."*

English Academic site 2 – time seems to be an issue with regard to lack of training – not just the time to take the training session, but time to develop their knowledge and embed new techniques into practice.

One Librarian describes the close liaison that is being established between themselves, academic staff and the ILT unit within the college in trying to develop materials for the emerging VLE (Blackboard), but this has not without it's difficulties in getting all parties together – librarian site 2

For new services librarians will liaise with academic staff in providing a trial of a new service that has come to the librarians attention and asking academic staff for their opinion. Occasionally staff will approach librarians for a new service – however *"if you look at the list of electronic resources which we have on the Intranet, the majority of those have been selected by ourselves"*. One experience was that a staff member requested a particular electronic

service to satisfy the requirements for an inspection however the service was never used and was withdrawn a year later - Library site 2

No real liaison with librarian when choosing new electronic services for their subject -biology academic 2
Business academic site 2 – in relation to liaison with library – *"not a great deal, to be honest. I have done for CD-ROM stuff occasionally, not as much as I'd like"*
There is liaison between staff in recommending useful services and developments - biology academic site 2

Students pass on useful web sites to academic *"It's one a student told me about, and it's really excellent..."* - business academic site 2
Doesn't really recommend any sites to students – business academic 2
When asked directly 'DO YOU SHOW YOUR STUDENTS HOW TO USE ELECTRONIC SERVICES?' one business academic member of staff replied *"My goodness no, they'd be showing me!"* - business academic 2

Librarians feel they are proactive in offering their services to both staff and students library – librarian site 2

Handouts, subject guides, electronic resource guides and advise about the ATHENS password are provided on the helpdesk - librarian site 2

THE FOLLOWING SECTION IS AN ANALYSIS (IN NOTE FORM) OF THE QUALITATIVE DATA GATHERED DURING ACADEMIC AND LIBRARIAN INTERVIEWS AND STUDENT FOCUS GROUPS IN RELATION TO 'TRAINING' AND 'LIAISON' THEMES AT CASE STUDY SITE 1 -

Librarians confirm there is much liaison between departments for new services that the library can offer it's users. One librarian at site 1 adding that their staff try to be proactive and encouraging a two way relationship with academic staff. A paper is published termly alerting staff to new resources in addition to the weekly newsletter and notices being place on Blackboard. One example of this encouragement is a very successful event where the liaison staff invited academic staff to a coffee and mince pie morning. It seems it was successful on more than one occasion, this was thought due to the informality of the event, and that staff didn't feel intimidated, also *"we tried to pitch it at what we could do for them that didn't involve any work from them basically, and that we were quite happy to do as much as we could to make life easier for them"* librarian site 1. This exercise led to a good follow up which, the librarian feels, has led to increased use of their services by both staff and students -Librarian site 1

Academic staff at site 1 relate how they liaise with library staff in that they *"have been a great help in pinning down lists of web sites (to put on the Blackboard)"* - biology academic site 1

Liasion – students hand in assignments to library staff - business academic 1

The college is involved in the G6 Consortium of colleges in the North East working together to upgrade IT facilities - biology academic site 1

Librarians have located materials for academic staff use such as CD-ROMS at their request for use within the library – biology academic site 1

DO YOU LIAISE WITH LIBRARY AND LEARNING RESOURCE CENTRE STAFF IN CHOOSING NEW ELECTRONIC SERVICES FOR SUBJECTS? *"very, very much so, they are a conduit for all of the information that comes into college from the publishers and the producers of electronic materials, and they distribute it to the people who are interested in that kind of material"* - business academic and course leader 1

Can put in a request for certain materials and the library deals with ordering them - business academic site 1

Academic staff in the biology department at site 1 intend to demonstrate Blackboard use to students through a Powerpoint display –recognising that not all students use the facility. Some staff in other subjects require that students access and print off lecture notes from Blackboard prior to the actual lecture - biology academic site 1

At the outset of a college course students are given passwords and an induction at learning centre into Blackboard use and all the electronic services that are available to them - academic at site 1.

Students at the Business focus group felt that they hadn't really had any formal training in using electronic information services *"I just know how to do it really"* was one comment, another was about finding out how to do things themselves. The students felt that the library staff would help them if they ever needed it, but just that they never asked, just found things out themselves *"I think you just learn yourself"*. At induction the students were given a booklet they had to work through which involved accessing Blackboard but also finding certain sections in the library as well. The students don't feel as if they learnt anything new during the induction period and that they *"knew most of it anyway"* (Microsoft Word, internet searching). Overall they were please with the level of induction they received and as one student put it *"if I had been told to sit down and they would go through and show us every programme that was on the computer I would just get bored because I know how to use the computers and that would just be a waste of my time..."* - business students site 1

Students from biology focus group said that they hadn't received any training from librarians, although they also said *"they would train if you asked though"* - biology students site 1

Librarians confirm that an initial induction is given to students on the understanding that further help is available to them on request from either themselves or their teachers. Student training is very much a liaison between academic and library staff *"we do keep very much in touch with each other as to what induction classes can and can't take place"* - librarian site 1

Librarian feels that student training has changed in that they now incorporate how to evaluate resources rather than just finding them – librarian site 1 adding that students do not seem to possess the critical skills needed to assess much of what they retrieve - librarian site 1

Librarians don't do a lot of the staff training, that tends to be organised through the training department in the college – librarian site 1

Students are given a user name and they set their own password - business student 1

Students have a personal tutor (in addition to a subject tutor) who gives them a basic induction – students then go away and try to do things themselves (with help from learning centre staff) - business academic site 1

Academic training involves being shown the 'Columbus' database where all student records are kept, this is given by an IT trainer. Whiteboard, Blackboard and intranet training are also offered. External training sessions are also offered. Not all training however is taken by academic staff, one comment was that *"[I] don't' have the time. It usually means you would have to leave a class or some other poor colleague has to cover for you"* - biology Site 1

A part time tutor in Business studies at site 1 had not received any training in Blackboard or powerpoint use from any source at the college and added that most of the resources used come from recommendation from colleagues – business academic site 1 Another business tutor felt that they wanted training to develop the Blackboard entry for the Business subject adding that this would encourage greater use by the students on the course – business academic site 1

Level 3 Key skills sessions are run with all students and as part of the process they have to learn how to evaluate materials from the internet – biology academic site 1

Student induction 2.5 days in which the library have an input, showing them the library, also an element of showing them how to log on - business academic site1

WHO TEACHES STUDENTS HOW TO EVALUATE INFORMATION?
"It is everybody really. Not so much the library staff because [their] role is not so much to teach the students but to ensure that [they] can access the materials" - business academic and course leader site 1

There is an element of liaison between E learning manager and academic staff who alerts staff to various events - business academic site 1

didn't feel pushed into using any particular type of information resource by academic staff *"just whatever is comfortable"* - business students site 1

5.3.6 HIGHER EDUCATION VERSUS FURTHER EDUCATION

While the FE sector has developed along a similar continuum as the HE sector – and indeed some large GE colleges have provided evidence of greater development and integration of EIS than HE institutions – some key characteristics of many of the smaller FE colleges are preventing them from developing at the same pace as their HE cousins:

- Many FE colleges are small and subsequently have limited money to invest in technology, training and development'
- Large numbers of tutors are expected to share access to desk top computers often hindering personal development opportunities;
- Many of the further education courses are particularly small and therefore expenditures on subject specific electronic resources cannot always be justified;
- Size of institution often predicates against the provision of subject librarians, so the institution doesn't have this professional expertise and the subsequent available support for academic staff and student users of EIS;
- The role of library staff is often not viewed as highly within the organisation as it is within the HE sector.

There is often less liaison activity occurring between academic staff and library staff in FE colleges, often the result of there being fewer library staff with responsibility for a wide range of disciplines and promotion of electronic resources and training is not always viewed as a prime role. JUBILEE evidence suggest that library staff are more proactive in trying to liaise with tutors than vice versa.

5.4 IMPACT STUDY A

5.4.1 BACKGROUND

The institution selected for the impact study is one of the largest institutions of higher education in the UK. It offers more than 300 courses, which are taught and supported by over 2,000 academic, administrative, technical, clerical and management staff. There are approximately 2,000 students from outside the UK.

5.4.1.1 AIM OF THE IMPACT STUDY

The primary intention of the impact study strand of the project was to investigate the uptake and use of EIS by students who were exposed to an intensive and prolonged information seeking and processing teaching module. The emphasis was to investigate the situation in the participating institution. At this site the project team were interested in determining whether student information seeking behaviour and perceptions change over a period of time following directed lectures, seminars and assignments, specifically those related to information seeking and processing.

DEFINITION OF IMPACT STUDY

The impact study strand of JUBILEE has the aim of developing an understanding of the facilitators and barriers in the use of electronic resources (such as websites, CD-ROMs and online databases). Through the cultivation of such understanding, JUBILEE aims in turn to provide a mechanism to assist institutions both improve electronic service use and exploit effective use of electronic resources. This has been achieved by undertaking a targeted, in-depth, longitudinal project in partnership with a host HE University. Impact evaluation has been exploited to determine the effect of a deliberate intervention on the behaviour of a small group of undergraduate students. Although there is no attempt here to assign causation to the implementation of the intervention, this is too extreme a claim in such a small-scale study, it is hoped it will be indicative of the potential this intervention has of making a difference. (Corbetta, 2003[1]) The duration of the study, and consequent familiarity with the students involved, provides sufficient insight to minimize the risk of distortion due to the homogonous nature of the student group.

METHODS

This strand of the research sought to assess the potential impact of directed lectures, seminars and assignments on student information seeking behaviour and perceptions. To meet this aim a group of first year undergraduate students participated in the research over a period of two years. 19 undergraduate students were involved in the impact study and were monitored over the two year period using focus groups, bibliography analysis, information seeking behaviour diaries and questionnaires. During the two years the research consists of a number of components:

Student participation.

YEAR 1 19 STUDENTS	YEAR 2 19 STUDENTS
Focus groups were conducted with students to assess their current perceptions, experience, awareness, knowledge and information seeking behaviour.	A third focus group undertaken with the students and questionnaires were again distributed at the beginning of their second year to assess any changes in information seeking behaviour and perception over the past year.
Questionnaire to collect baseline data.	Students were exposed to a purpose designed

[1] Corbetta, Piergiorgio (2003). *Social Research: theory, method and techniques*. London, Sage

	information seeking and critical analysis module that lasted 12 weeks. All 19 of the original group maintained diaries of their behaviour throughout Semester 1 of their second year.
Students engage in module assessment and record all information seeking activity [students make regular use of diaries as part of a module assessment]. Submission of report, bibliography analysed to identify range of sources used.	Students produced a literature review assignment and a bibliography analysis was carried out on the 19 assignments of those participating in the study.
Student focus group; evaluation of diaries; discussion with tutors.	Student focus group; evaluation of diaries; discussion with tutors.

Nature of the intervention
The programme module the students in this study were exposed to during the second year of the study was a Research Methods module focusing on the research literature review. The module consisted of the following taught sessions:

The emphasis here was on locating, retrieving, evaluating and synthesizing literature from a wide range of sources. It must be stressed that this module followed on from a first year module that concentrated on User Behaviour and information seeking behaviour. These students could be referred to as an *"extreme sample"* (Maykut and Morehouse, 1994)[2], as they were exposed to more intense discussion concerning information seeking behaviour and literature searching than many undergraduate students.

5.4.1.2 SUMMARY OF FINDINGS

The following findings are based on the focus group discussions, analysis of two rounds of the questionnaire, diary contents and bibliography analysis, to determine the impact of a purpose designed information seeking and critical analysis teaching module on students:

- Access to a PC;
- Use of EIS;
- Perception of own IT skills;
- Advantages and disadvantages of EIS;
- Electronic resources versus printed material;
- Uptake of training;
- Patterns of information seeking;
- Range of sources used.

Access to a PC

YEAR 1	YEAR 2
53% of the respondents felt there was sufficient access to a networked computer at their institution	42% of the respondents felt there was sufficient access to a networked computer at their institution
79% of the students said they frequently accessed a computer at home	92% of the students said they frequently accessed a computer at home
22% noted they frequently accessed a computer in the library computer areas	34% noted they frequently accessed a computer in the library computer areas

[2] Maykut, P. and R. Morehouse (1994). *Beginning qualitative research: A philosophic and practical guide.* London, Farmer Press

71% said they frequently accessed a computer in other university areas. **Comments from a student included:** *On normal days just in your department….you're in the middle of something like for example yesterday I was filling something on blackboard and in the middle of it the lecturer came and said everybody should get out.* *You'll find when it comes to deadlines for assignments they're gold dust, you've got to come really early…if you want it for a long time. But I think usually it's okay.* *You can still go along to the seminar and there will be people in there working and you have to clear them all out. The classes of 16 people for a seminar when there are only 14 machines in the room.*	78% said they frequently accessed a computer in other university areas. **Comments from a student included:** *It's not that easy to find a pc on campus, it's impossible at the end of semester when the works due.* *I use the Open Access rooms but it would be easier if they were closer to our teaching rooms.* *I prefer to use my own, I like it better at home, I get some peace and quiet and I can take as long as I like.* *It's cool to go into the library sometimes but you nearly always have to wait.*

Use of EIS

YEAR 1	YEAR 2
90% of the students felt that their work had improved as a result of electronic resources 100% frequently or sometimes used Internet search engines 64% rarely or never used CD-ROMs; 48% frequently or sometimes used non-library printed material 72% frequently or sometimes used library based print material and library web pages and electronic journals; **All** students used the following electronic resources: BlackBoard, email, OPAC Resources and Electronic gateway to information. **Some** also used: FAME, Mintel, Emerald and BIZED *Use Internet for E-mailing, reading news, sport and to get times and cinema shopping and coursework.*	96% of the students felt that their work had improved as a result of electronic resources 100% frequently or sometimes used Internet search engines 62% rarely or never used CD-ROMs; 48% frequently or sometimes used non-library printed material 100% frequently or sometimes used library based print material and library web pages and electronic journals; **All** students used the following electronic resources: BlackBoard, email, OPAC Resources, Emerald and Electronic gateway to information. **Some** also used: FAME, Mintel, and BIZED *Use Internet for E-mailing, searching for research or articles, reading news, sport and to get times and cinema shopping and coursework.*

Use of Blackboard

Students used Blackboard particularly for gaining access to seminar and lecture notes.

Last year we had a teacher and she didn't hand out any notes during the lecture but she put them up on the overhead. But she didn't put any on blackboard either because I think quite a few people struggled with the assignment because of the lack of notes.

Students also used the discussion facility:

I used it for a presentation about Newcastle. Part of mine was about pubs and clubs and somebody had put some information on and I put some of that in my research.

Sometimes we discussed some coursework in Blackboard.

Others however made use of the general email system:

Some felt that Blackboard was '*quite easy to use when it works'.*

If I've got problems with an assignment rather than use blackboard I just e-mail a couple of people, it's easier.

Blackboard training

Students commented that they had received Blackboard training at the start of term although it was a short session and didn't cover all the basics:

It was quite short, it was only the bare basics of it. We didn't know about the discussion board or that you could get grades or how to e-mail people using the tick boxes that you've got. We weren't shown any of that.

We had some time and study skills but it actually wasn't working at the time so there was only little bits that she could show.

Profile of student experience

IT experience prior to enrollment at the university was very similar amongst the students: while most used computers everyday they felt they lacked searching and retrieval skills when they came to university:

I had experience using a computer but not very much experience in searching for information

I'd used computers a lot, the internet was more hit and hope just basically putting in a key word or whatever but I've learnt a lot about searching now.

It's just finding specific information using the databases that's the only new thing really, in refining your searches.

Participating students felt that their skills had developed during their first semester at university:

I'm beginning to pick up new things that are making it easier and quicker all the time to look through all the stuff. For A' Level I was crap, and it took me ages to find out exactly what I wanted whereas now it's become more refined, it's become quicker and it's just easier.

I still think it's hard sometimes...we're not used to using the extra resources you can do to check websites, we used to just use general home pages like everyday commercial ones.. I'm still learning where to find information and I find it harder for specific information. We're getting sort of the basics but it's just a case of trial and error really until you can get it.

Perception of own skills

84% of the respondents found it easy to find useful *information when using electronic resources;*

79% of the respondents found it easy to find *reliable* and *accurate* information when using electronic resources;

One-third felt they had intermediate skills when using basic computer packages; two-thirds felt they were experts;

79% thought they had intermediate skills when searching for and retrieving information; the remaining students believed they were beginners;

58% thought they were beginners when evaluating the quality of information retrieved electronically; the remaining student felt they were intermediate.

Students commented that:

If I know what I'm looking for then yes but if it's something I haven't come across before then it can be quite difficult.

[It's easy] If you know what you're looking for.

Accurate/ reliable information

Students were asked how they checked for accuracy and reliability of information found electronically. The following were provided:

Triangulation;
Use tutor experience;
Looking at URL's;
Own judgment;
Author/ date of publication.

By checking with other websites, search engines watch etc, check the URL addresses.

By referring to hardcopy and other research.

You can't always tell, so you have to get more than one source to verify the information.

Lecturer's don't lie so are reliable. When I use the internet I trust most sources.

From an information retrieval lesson we learnt to look at the URL. If it contained .gov, .ac etc is was a reputable site. Also the electronic journals we can access have been refereed so the contact is reputable.

I use my own judgment. Before I begin to search for information that I require, I have an idea in my head of what I am looming for which can sometimes be very advantageous but also very time consuming at times.

Information seeking process

Students were asked to comment on how they begin researching for information in a new topic area. Most students did not have specific strategies, *'start off frantically searching around everywhere, typing in words into google'.*

We just go on the Internet, use the search engine to get some general information.

I would most probably have a read of what the brief was and just pick out what the key words were and then go to the internet or go to the library and try the OPAC system and see if there were any relevant books.

You use things like search engine watch as well to see which ones are more reliable and updated.

One reason provided for using electronic resources rather than print based material was a 'dislike' of the university library:

I'm actually quite intimidated by going into the library.

I don't like the library, I don't like the way it's set out, I can never find anything that I'm looking for so my first port of call would be to go on-line to the library.

Print versus electronic resources

78% of the respondents used EIS more than print;

89% thought it was easier to access electronic resources rather than print based resources;

94% thought access to electronic resources was quicker than accessing print-based resources.

I would probably say 80% electronically but if I could go and find the book that had the information I would find the book electronically.

I would say it's about 70/30 because I don't have access at home to the internet when I can do it on-line I'll just take that chance and get it printed off so I just bring it home and go through it later because I don't really look for specifics. If I can find something generally rather than wasting time on the computer all the time I'll just sort of print it all out and then scan through it later and maybe just keep what I need.

I use hard copy more than electronic resources…the reason is I didn't know how to use computer until I came to university, so I used to hard copy rather than the electronic…hard copy I can read in the bath or the car or the house or sit in the library.

Electronic because… just go on the net and the Northumbria website you can use the learning resources, you can go onto emerald and things like that and get journals and all things so it's easier to find, easier to get.

About half and half I would say, sometimes it gets frustrating on the web because you can't sometimes get what you want and you're going round and round in circles. At least if you've got a book there if it's there you can read it.

Advantages of EIS

Students noted the following as being advantages of EIS:

Offers the ability to access course work;
Increases the amount of information available;
Quicker;
Easier;
Up-to-date.

To get notes and communicating with lecturers, blackboard is good.

Access to a vast amount of information.

Can be quicker to access than finding books but depends on area and need.

It is very accessible, easy to get hold of, and in (general) very accurate. It is also a lot easier, in my opinion, to gain information from EIS than from library textbooks or journals.

More up-to-date (usually), it is faster.

Disadvantages of EIS

Similarly they noted the following disadvantages:

Difficult to use;
Time lag for tutor response;
Technical problems (e.g. access denied, slow connection);
Information overload.

No instant response from lecturers

Sometimes our university server has some problem and I can't access it from home.

At times I don't find what I was looking for

If access is unavailable it makes life harder, also if there is a system crash it can become very frustrating

There can be sometimes too much information.

I think also you can refer back to stuff that you know where it is and you can look back to it especially if you're doing something involving history it isn't going to change, so you can keep referring back to it and back to it, the information is handy, it's portable and you don't need to have access to a telephone line to get to it.

Training

Students were asked whether they had participated in any training activities:

20% participated in training provided by the library;

44% participated in training provided by their tutors.

Students were asked to comment on the usefulness of the training course and provided the following information:

Changed searching techniques;
Helped locate more accurate results;

We have had some sessions where they tried to make it so it will be quicker and I can get more accurate results. They've had theory and practice as well.

I think it's changed my way a little bit.

I'm using phrases or Boolean now so I didn't know how to do that before. I tend to search rather than browse now as well, use the search box.

I know how to use Boolean logic better now like putting pluses or minuses when you're searching because it's easier to find and you find more relevant stuff as well.

One student however commented that *'I just knew most of the stuff anyway to be honest'.*

Use of EIS in teaching

Students were asked to comment on how well EIS were integrated into the curriculum and whether they received any specific training from their tutors:

100% of respondents said that their tutors refer to and encourage students to use certain EIS;

90% commented that their tutors teach them how to evaluate EIS with students;

100% noted that the use of EIS is required in some assessed work.

I think so. I think because of the nature of the course so many things change fast you have to plus the fact they do recommend a lot of resources as well.

I think they expect you to have a mixture. Quite often things are changing so fast like we did the business report last term and my company that I was searching for had changed its name and there was no stuff in the library on hard copy so that was very handy so being able to search it electronically was helpful.

BIBLIOGRAPHY ANALYSIS

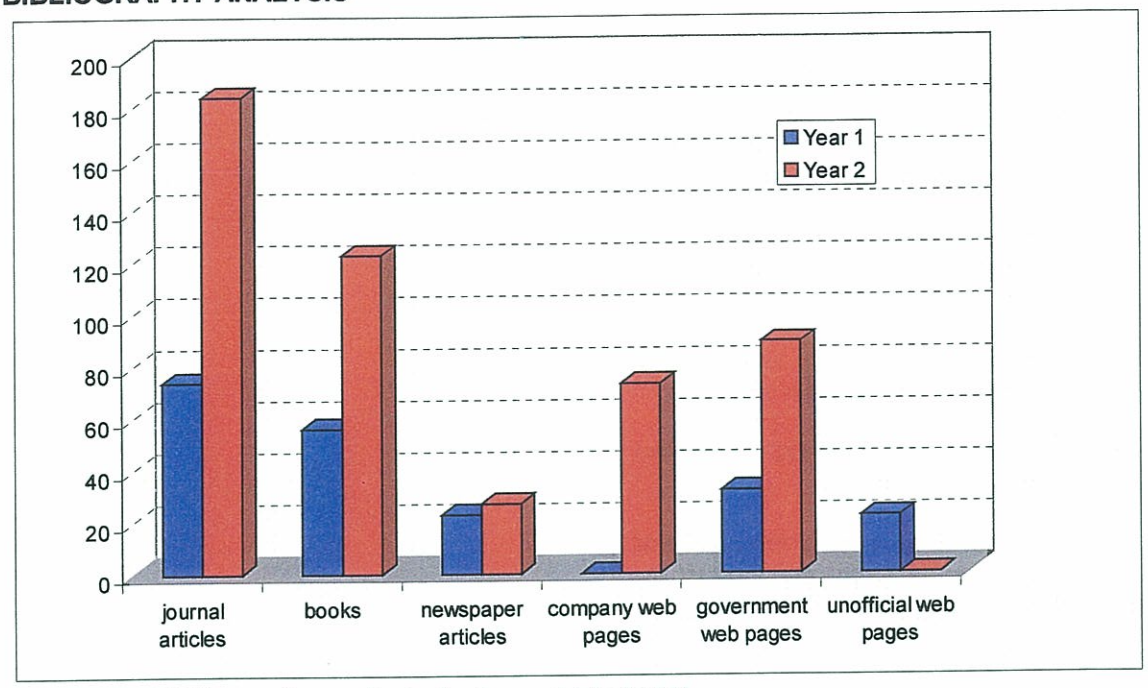


Figure 35: Bibliography analysis for Impact Study 'A'

Effective intervention

A number of areas of good practice emerged from the individual training sessions during module delivery including:

- Training needs to provide students with a set of specific questions to work through to ensure a '*hands-on*' session achieves maximum success;
- Students need direction and focus during each session and the goal has to be evident from the outset;
- Training needs to be tied into an assignment, where a percentage of the mark is awarded on completion of the training session activities;
- Training needs to be closely tied into the needs of the individual group of students rather than using generic modules which don't account for a variety of skill levels or subject specific requirements;
- Time constraints often prevent the students from trying to use resources they are unfamiliar with, especially when they perceived existing ones are effective. It helps to start introducing resources early in the process so there is time to become familiar before the activity becomes crucial.
- Investigating search strategies is very important before focusing solely on the resources available.

See Appendix E for Impact Study 'B'.

6. DEVELOPING THE LONGITUDINAL PICTURE

6.1 HIGHER EDUCATION TRENDS, CYCLES 1- 5

Over the five cycles of JUBILEE activity the project has sought to identify trends and developments in student use, awareness and perceptions of electronic resources While questionnaire design altered as a result of experience and knowledge gained in fieldwork and analysis, in each and every cycle of research students were presented with the following statements and asked to respond on a scale of 'not at all/ hardly'; 'so so'; 'fairly/ very much'. For ease of reading responses have been recoded; "not at all" and "hardly" have been grouped into one negative response and "fairly" and "very much so" being grouped into one positive response. :

- Using EIS I find useful information;
- EIS are time saving;
- There are enough access points to EIS available to me;
- I am confident using EIS;
- My work would suffer without access to EIS;
- I use EIS more than print sources.

Graphs are shown below for each of the above statements. Some trends between the four cycles and between the three subject areas (arts, social science and science) will be analysed and presented.

- **Using EIS I find useful information**

There was no discernable difference between opinions of those students studying arts, social science or science courses.

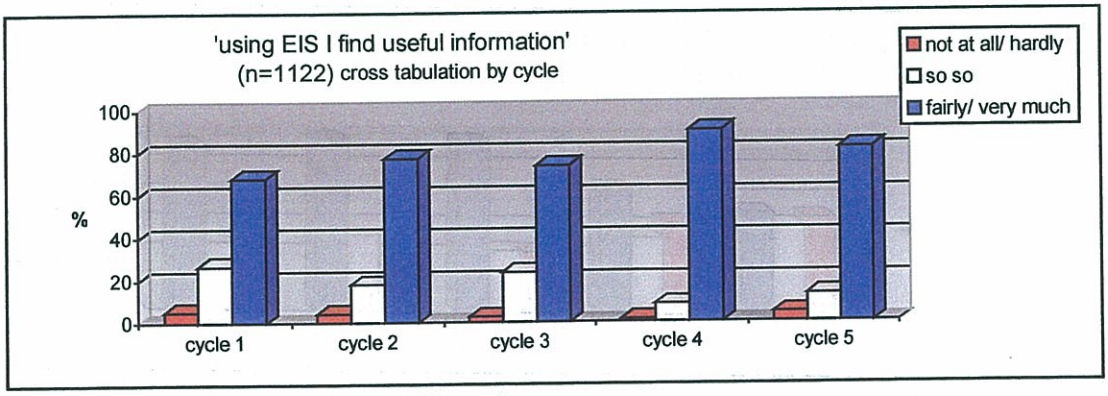


Figure 36: Using EIS I find useful information

As the graph highlights, by cycle 5 of JUBILEE more of HE student respondents' claim to be able to retrieve useful information using electronic resources than they did during cycle 1. From cycle 4 onwards, almost all students across disciplines responded positively to the statement.

- **EIS are time saving**

A cross tabulation by subject groups identifies that more students studying science or social science courses perceived EIS to be time saving. As the graph below highlights in the last three cycles once again more student respondents perceived that EIS were time saving, in fact by cycle 4 (1.4%) and 5 (8.7%) only an extremely small percentage of students reacted negatively and did not think using EIS saved them time.

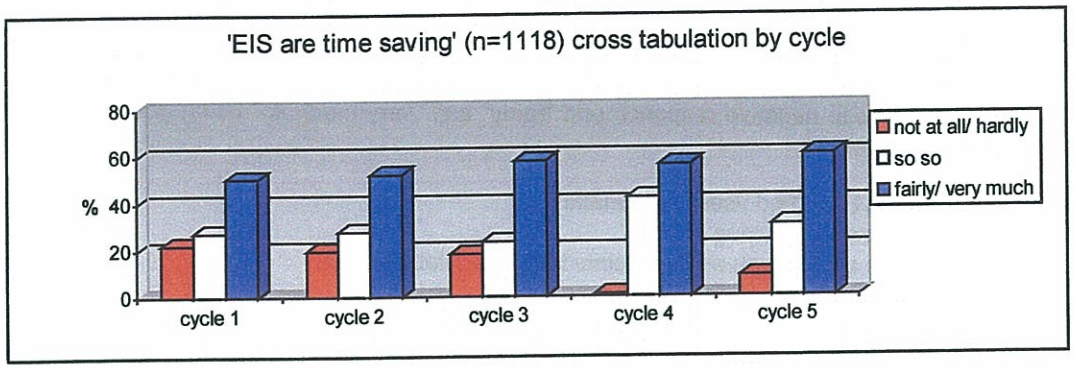


Figure 37: EIS are time saving

- **There are enough access points to EIS available to me**

A cross tabulation analysis undertaken on the basis of subject versus perceptions suggests that more science students felt there were enough access points available to them. This may be a result of departmental provision of PCs being more pervasive in more science-based disciplines.

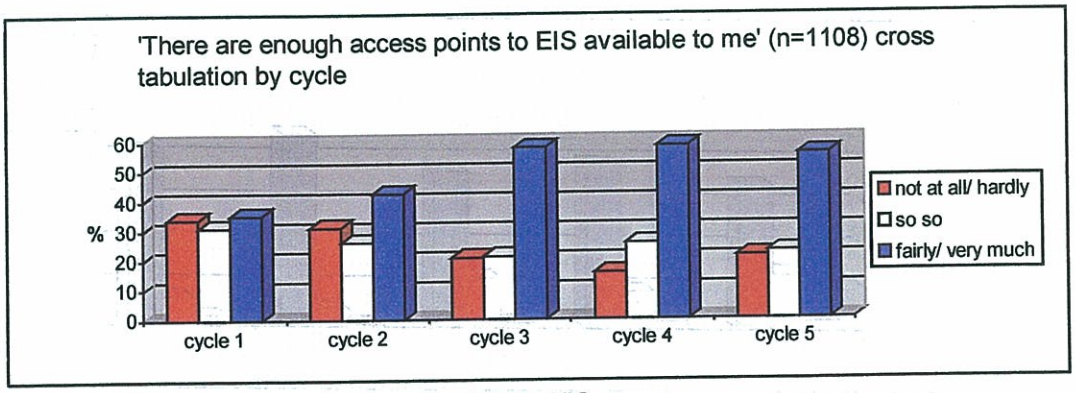


Figure 38: There are enough access points to EIS

As the graph highlights, student level of satisfaction regarding EIS access points has risen over the five year period of investigation. Despite this increase however it should be noted that unlike in the preceding satisfaction ratings, opinion here is more diverse in cycle 5. Over a fifth (21.4%) of students in cycle five expressed dissatisfaction and approximately another fifth were undecided (22.8%), which remains a significant minority unhappy with their ability to access electronic resources on campus.

- **I am confident using EIS**

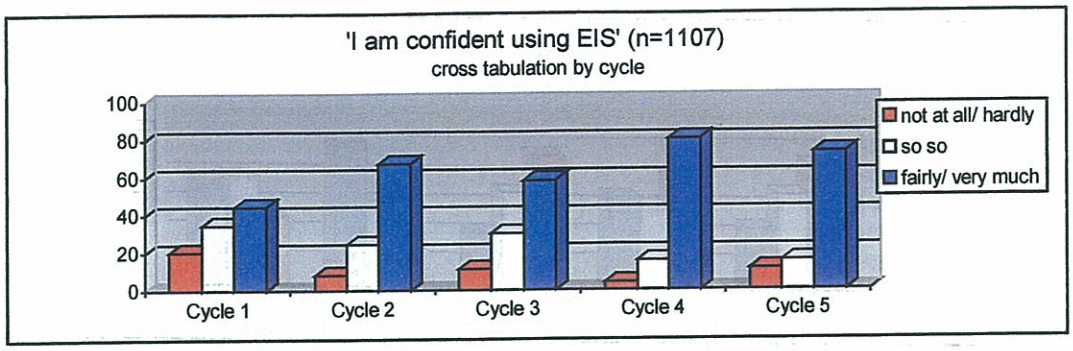


Figure 39: I am confident using EIS

As the graph highlights during the five cycles of JUBILEE, it is evident that higher education student respondents' confidence in using electronic resources had increased. While little over 40% of the sample believed themselves to be confident users of EIS during the first cycle of JUBILEE, this figure has in cycle 5 almost doubled (73%), this paralleling the increased provision and prevalence of EIS in academic life.

- **My work would suffer without access to EIS**

Analysis by subject studied identifies that science and social science students are more inclined to think their work would suffer that arts students.

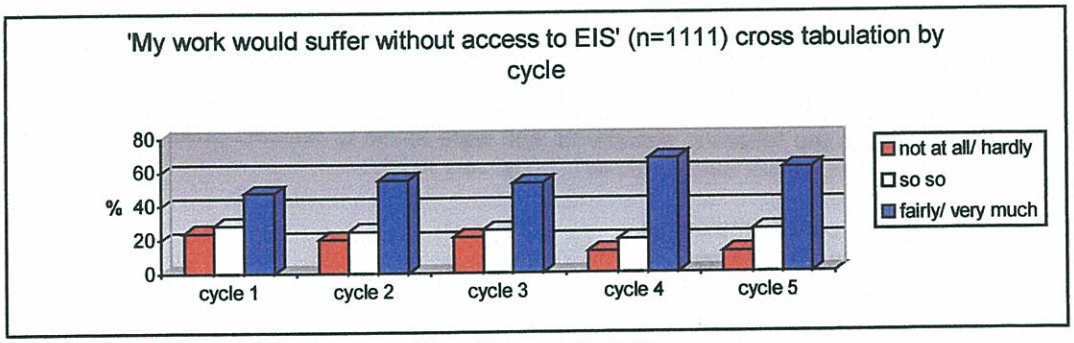


Figure 40: My work would suffer without access to EIS

As the graph highlights over the five year JUBILEE period more students perceive that their work would suffer without access to EIS in cycles 4 and 5 than was the case in earlier cycles. Significantly student respondents who disagree that their work would not suffer without recourse to electronic information has dropped to only approximately 12% in cycles 4 and 5.

- **I use EIS more than print sources**

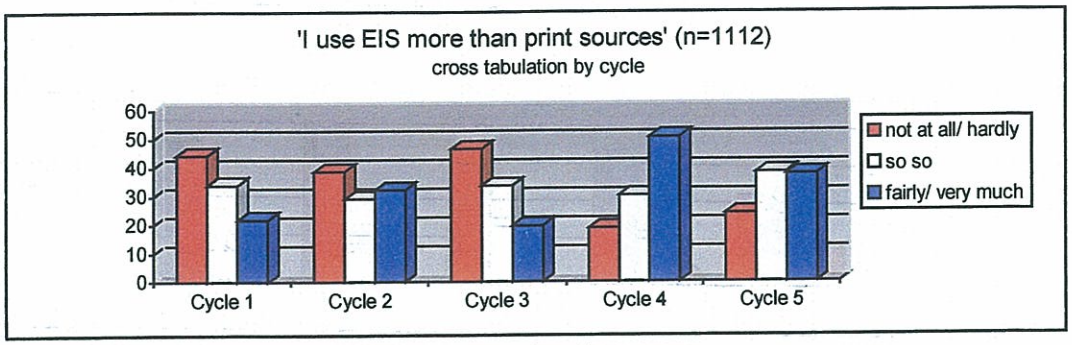


Figure 41: I use EIS more than print sources/ cycle

As the graph highlights there is a distinct change in students' use of print versus electronic information resources over the last five years. During the first cycle of JUBILEE over 40% of student respondents claimed to have used print resources more than electronic material. In cycle 4 there was a noticeable shift, with just over half of the respondents using electronic resources more than printed material (50.7%). In the current cycle HE responses have been more mixed, however the proportion of students contending they use EIS less than print sources to find information continues to have lessened, being approximately half (24.1%) that noted in cycles 1 to 3 (44.3%, 38.7% and 46.5% respectively).

6.2 FURTHER EDUCATION TRENDS, CYCLES 3 - 5

JUBILEE has also sought to identify trends and developments during the three cycles of FE activity of student use, awareness and perceptions of electronic resources. Given the much larger response rates from the FE strand of JUBILEE in comparison to HE as observed elsewhere, the unique JUBILEE trend data for FE is of great interest. As in HE students were presented with the following statements and were asked to respond positively or negatively, on a scale of 'not at all/ hardly'; 'so so'; 'fairly/ very much':

- EIS is useful/ interesting;
- EIS are time saving;
- There are enough access points to EIS available to me;
- I am confident using EIS;
- My studies would suffer without access to EIS;
- I use EIS more than print sources.

Data is available for cycles 3 & 5 and trends between these cycles and the three subject areas (arts, social science and science) will be analysed and presented.

Cycle 5 respondents are students studying either a Foundation Degree in Early Years Studies, a Modern Apprenticeship in Catering/Hospitality or A level subjects English Literature, Business Studies and Biology in a further education college within the North East of England, North Yorkshire and/or Cumbria. A total of 650 student questionnaires were collected in this cycle. Additionally questionnaires have been gathered from a pilot study case study site in the North East of England. In order to maintain the internal validity of the study these results are not included due to changes made in data collection methodology. A separate report is being conducted for each of 3 case study sites included as part of cycle 5. The total number of questionnaires making up the trend data analysis for cycles 3, 4 and 5 is 1,298.

- **Using EIS I find useful/interesting information**

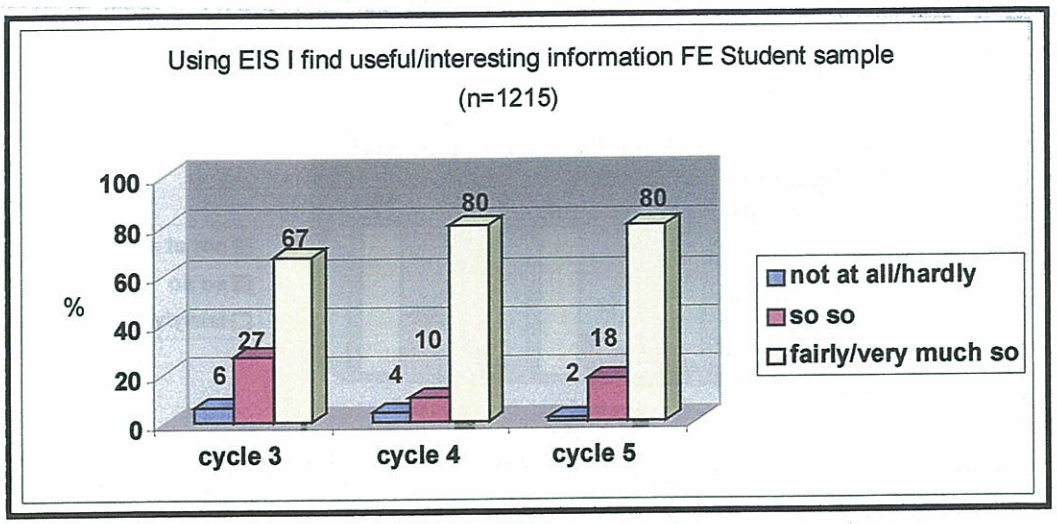


Figure 42: Using EIS I find useful/interesting information

This graph shows a continuing belief that EIS are useful to students. 80% of respondents offered positive responses in both cycles 4 and 5.

- **EIS are time saving**

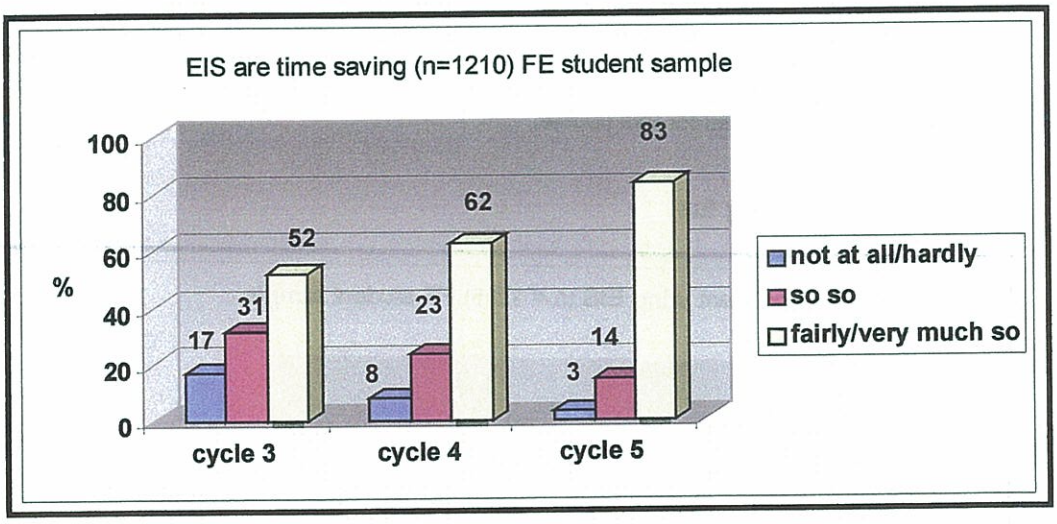


Figure 43: EIS are time saving

In cycle 5 the vast majority of students (83%) believed that EIS did save them time, and the above graph clearly highlights the ongoing rise in this perception over the three cycles of the FE study.

- **There are enough access points to EIS available to me**

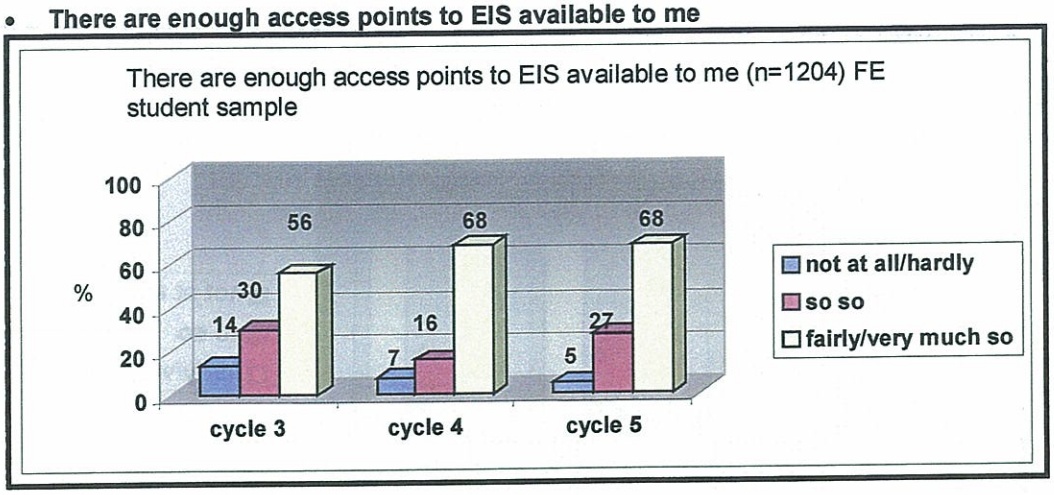


Figure 44: There are enough access points to EIS available to me.

The number of students providing a positive response to this statement has been steady over the last two research cycles. Whilst there are slightly fewer negative responses in cycle 5 this graph shows a slight increase (27%) in the ambivalent "so so" response when compared to that cycle 4 (16%), however this is still less than the result shown for cycle 3 (30%). Many students in the cycle 5 study attend college in the evening (Foundation Degree Early Years) and have access to PCs in their teaching rooms and in one case study site students on this course indicated that they would never use the library to access EIS as they felt uncomfortable. Another possible factor that may have influenced the indifferent results is that many students undertaking the Modern Apprenticeship course in Catering/Hospitality do not attend college at all during their course, while others may attend college one day a week, as most learning is work-based for this course.

- **I am confident using EIS**

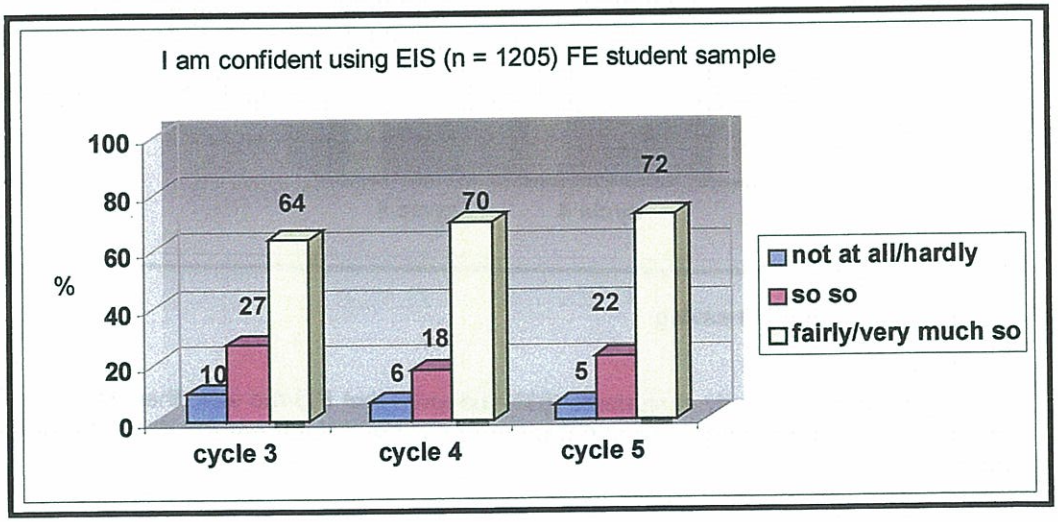


Figure 45: I am confident using EIS

A steady but growing confidence by FE respondents in making use of EIS is shown across JUBILEE cycles with 72% of students offering a positive response in cycle 5.

- **My studies would suffer without access to EIS**

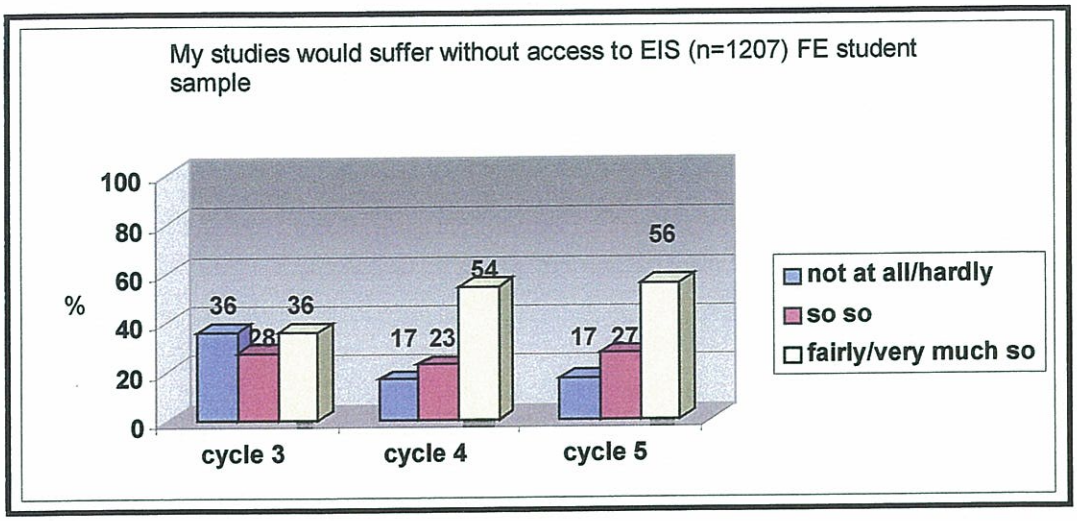


Figure 46: My studies would suffer without access to EIS

It would appear that, as in HE, further education students increasingly feel that their studies would suffer without access to EIS. In cycle 3 about a third (36%) of respondents expressed a positive opinion when confronted with this statement, however this figure has risen to just over half (56%) of respondents in cycle 5. Also of note is that in cycle 5 only 17% of respondents expressed a negative reaction, echoing the previous year.

- **I use EIS more than print sources**

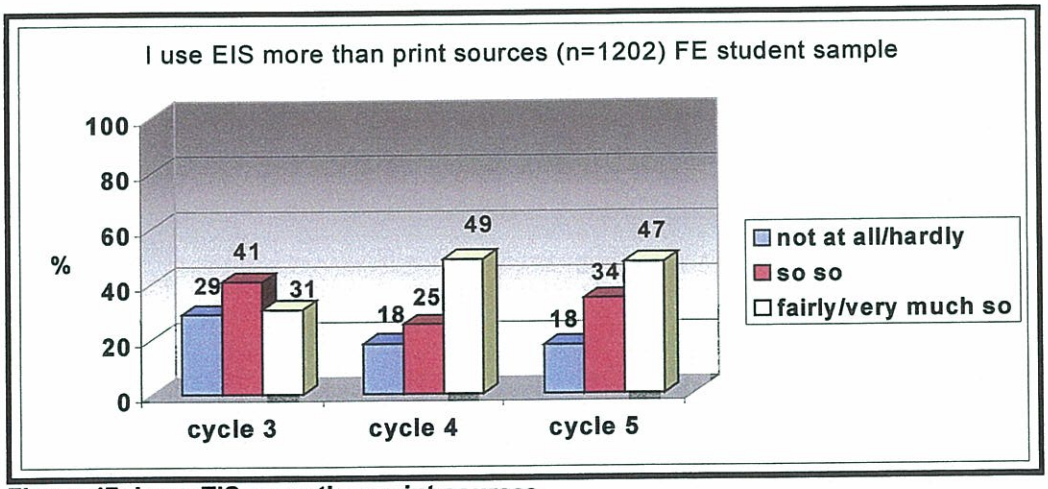


Figure 47: I use EIS more than print sources

A slight drop has occurred in the number of respondents stating that they do use electronic information more than print sources, from 49% in cycle 4 to 47% in the current cycle.

APPENDIX A

JISC PROJECT

INFORMATION MANAGEMENT RESEARCH INSTITUTE

northumbria UNIVERSITY

Using Electronic Information Services

- This questionnaire asks about 'electronic information' - sources that you use electronically on a computer, such as a web site on the Internet, an online catalogue (OPAC) or database provided by the library, a CD-ROM, or an electronic journal
- The form takes about 5 minutes to complete – just tick the appropriate boxes - not everything may be relevant to you – please complete as much as you can
- All replies remain anonymous
- This research is part of IMRI's JUBILEE (JISC User Behaviour in Information Seeking: Longitudinal Evaluation of Electronic Information Services) project looking at use of electronic information services

Q.1 **What is/are your main teaching subject(s)?**

Q.2 **Are you employed by the college** ☐ Full time? ☐ Part time?

Q.3 **Age** ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60+

Q.4 **At work, do you have access to your own networked PC?** ☐ Yes,own PC ☐ Yes,shared ☐ No

Q.5 **Do you search for information electronically?** ☐ Yes ☐ No – please go to Question 8

Q.6 **Where and how often do you use a computer to search for information electronically?**

		Every week	Every month	Never
a.	Desktop PC in office	☐	☐	☐
b.	College library PC areas	☐	☐	☐
c.	Other college PC areas	☐	☐	☐
d.	Home	☐	☐	☐
e.	Other (Please state) _____	☐	☐	☐

Q.7 **How do you learn about sources of electronic information that may be useful to you? Please tick all that apply.**

a. Recommendations from academic colleagues ☐
b. Recommendations from your students ☐
c. Recommendations from library colleagues ☐
d. Library leaflets / posters ☐
e. Own research ☐
f. Other (Please state) _____ ☐

Q.8 Please tick boxes to show which of the following information resources, provided by the college, you use, and how often?

		Every week	Every month	Never
a.	Books from the college library	☐	☐	☐
b.	Printed journals from the college library	☐	☐	☐
c.	Electronic journals	☐	☐	☐
d.	CD-ROMS	☐	☐	☐
e.	Databases of journal articles	☐	☐	☐
f.	Internet search engines (Google, Altavista etc)	☐	☐	☐
g.	College intranet	☐	☐	☐
h.	Own books	☐	☐	☐
i.	Other (Please state) _____	☐	☐	☐

Q.9 For the resources you use, as indicated above in Q8, do you find them easy / hard to use?

		Easy	Hard
a.	Books from the college library	☐	☐
b.	Printed journals from the college library	☐	☐
c.	Electronic journals	☐	☐
d.	CD-ROMS	☐	☐
e.	Databases of journal articles	☐	☐
f.	Internet search engines (Google, Altavista etc)	☐	☐
g.	College intranet	☐	☐
h.	Own books	☐	☐
i.	Other (Please state) _____		

Q.10 This question asks about training opportunities in the effective use of electronic information services:

		Is such training provided?			Have you participated?	
		Yes	No	Don't know	Yes	No
a.	Training session from college library staff	☐	☐	☐	☐	☐
b.	Training session from partner university library staff	☐	☐	☐	☐	☐
c.	Training session from another provider, eg, external course	☐	☐	☐	☐	☐

Q.11 Who, in your view, is responsible for training your students in the use of electronic information services? (Tick all that apply)

a.	Academic staff	☐
b.	College Library staff	☐
c.	Partner University Library staff	☐
d.	Employers where learning is work-based	☐
e.	Staff at school prior to students starting college	☐
f.	Students' own responsibility	☐
g.	Other (Please state) _____	☐

Q. 12 **Do you use electronic information services for any of the following activities? (Tick all that apply)**

- **a.** Preparation for lessons / lectures ☐
- **b.** Researching / gathering information ☐
- **c.** Communicating with students and other lecturers ☐
- **d.** Publishing and dissemination of research ☐
- **e.** Leisure / non academic interests ☐
- **f.** Other (Please state) _____ ☐

Q.13 **Do you use Blackboard, or a similar virtual learning environment?** ☐ Yes ☐ No

Q.14a **Please give an example, if you can, of a particular electronic information service, such as a web site on the Internet, an online catalogue (OPAC) or database provided by the library, a CD-ROM, or an electronic journal, that you use regularly:**

Q.14b **What do you like about using it?**

Q.14c **What do you dislike about using it?**

Q.15 **Tick the appropriate box to indicate your experience relating to electronic information services (EIS):**

		Always	Sometimes	Never
a.	I am confident using EIS	☐	☐	☐
b.	In courses which I teach the use of EIS is required in some assessed work	☐	☐	☐
c.	With my students, I refer to, and encourage the use of, certain EIS	☐	☐	☐
d.	With my students, I raise awareness of how to evaluate the content of EIS	☐	☐	☐
e.	I find it easy to obtain ***useful*** information using EIS	☐	☐	☐
f.	I find it easy to obtain ***reliable*** and ***accurate*** information using EIS	☐	☐	☐
g.	I use EIS more than printed sources (i.e. books)	☐	☐	☐
h.	I find it ***easier*** to access useful information using EIS instead of printed sources	☐	☐	☐
i.	I find it ***quicker*** to access useful information using EIS instead of printed sources	☐	☐	☐
j.	Library staff are knowledgeable about the EIS they provide	☐	☐	☐
k.	My work has improved as a result of EIS use	☐	☐	☐
l.	I enjoy a good working relationship with library staff	☐	☐	☐
m.	Students can readily access a computer to use EIS in the college library	☐	☐	☐
n.	Students can readily access a computer to use EIS in the college	☐	☐	☐

Many thanks for your time and assistance

Please return your form as soon as possible in the pre-paid envelope provided

If you are willing to be contacted for further information please give your name and telephone/email:

This research is part of IMRI's JUBILEE project looking at electronic information services - further information and contact details are available at: http://is.northumbria.ac.uk/imri

JISC PROJECT

INFORMATION MANAGEMENT RESEARCH INSTITUTE

northumbria UNIVERSITY

Finding and using information for studying

- This questionnaire asks about sources of information that you use for your studies. This includes 'electronic information' - sources that you use electronically on a computer, such as a web site on the Internet, an online catalogue (OPAC) or database provided by the library, a CD-ROM, or an electronic journal
- It only takes a few minutes to complete – please tick the appropriate boxes
- We don't ask for your name so all answers are anonymous

Q.1 **Age** ☐ 16-19 ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60+

Q.2 **Year of study** ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

Q.3 **Attendance** ☐ Full-time ☐ Part-time

Q.4 **Do you use a computer to find electronic information for studying?** ☐ Yes ☐ No, please go to Q 6

Q.5 **Where and how often do you use a computer to search for electronic information?**

		Every week	Every month	Never
a.	College library computer areas	☐	☐	☐
b.	Other college computer areas	☐	☐	☐
c.	University library computer areas	☐	☐	☐
d.	At Work / placement	☐	☐	☐
e.	At Home	☐	☐	☐
f.	Other (Please state) _____	☐	☐	☐

Q.6 **For the information sources listed below, tick a box for each one that you have used to show if you find it easy or hard to use. Please tick a box for each option.**

		Easy	Hard
a.	Books from the library	☐	☐
b.	Printed journals from the library	☐	☐
c.	Handouts from teaching staff	☐	☐
d.	Electronic journals	☐	☐
e.	CD-ROMS	☐	☐
f.	Databases of journal articles	☐	☐
g.	Internet search engines (Google, Altavista etc)	☐	☐
h.	College intranet	☐	☐
i.	Own books	☐	☐
j.	Other (Please state) _____	☐	☐

More questions overleaf

Q.7 **Which of the following do you use to help you with studying for the course you are doing now at the college? Please tick a box for each option.**

		Weekly	Monthly	Haven't Used
a.	Books from the library	☐	☐	☐
b.	Printed journals from the library	☐	☐	☐
c.	Handouts from teaching staff	☐	☐	☐
d.	Electronic journals	☐	☐	☐
e.	CD-ROMS	☐	☐	☐
f.	Databases of journal articles	☐	☐	☐
g.	Internet search engines (Google, Altavista etc)	☐	☐	☐
h.	College intranet	☐	☐	☐
i.	Own books	☐	☐	☐
j.	Other (Please state) _____	☐	☐	☐

Q.8 **How do you learn about sources of ELECTRONIC information that may be useful? Tick all that apply.**

a. Recommendation from other student ☐
b. Recommendation from teaching staff ☐
c. Recommendation from college library staff ☐
d. Recommendation from university library staff ☐
e. Recommendation from employer ☐
f. Library leaflets/posters ☐
g. Finding out myself ☐
h. Training session from teaching staff ☐
i. Training session from college library staff ☐
j. Training session from university library staff ☐
k. Training session from employer ☐
l. Being shown by another student ☐
m. Other (Please state) _____
n. Don't use electronic information (Please go to Q 10) ☐

Q.9a **What's your favourite ELECTRONIC information source?**

Q.9b **What do you like about using it?**

Q.9c **What do you dislike about using it?**

Q.10 **Who do you think is responsible for training you to use ELECTRONIC sources of information? Tick all that apply.**

a. Teaching staff ☐
b. Library staff ☐
c. Students' own responsibility ☐
d. Other (Please state) _____ ☐

Q.11 **Please list any other courses you are studying at the college now:** _____

...and finally

Q.12 Please place a tick in the relevant box to demonstrate the extent to which you agree with the following statements:
(remember EIS = Electronic Information Services, such as those mentioned in the box on the front cover)

		Very much so	Fairly	Sometimes	Hardly	Not at all
a.	Using EIS I find useful/interesting information	☐	☐	☐	☐	☐
b.	I am confident using EIS	☐	☐	☐	☐	☐
c.	EIS are time saving	☐	☐	☐	☐	☐
d.	There are enough access points to EIS available to me	☐	☐	☐	☐	☐
e.	My work would suffer without access to EIS	☐	☐	☐	☐	☐
f.	I use EIS more than print sources	☐	☐	☐	☐	☐

Q.13 By placing a tick in the appropriate box please agree or disagree with the following statements relating to EIS:

		Yes	No
a.	In my course the use of EIS is required in some assessed work	☐	☐
b.	My lecturers/tutors have taught me how to evaluate the content of EIS	☐	☐
c.	I find it ***easier*** to access useful information using EIS rather than printed sources	☐	☐
d.	I find it ***quicker*** to access useful information using EIS rather than printed sources	☐	☐
e.	There are enough computers available at the university for me to use EIS	☐	☐

Thank you.

- Please return your form straight away! -

If you wish to return this questionnaire and there no one to collect it or there is no pre-paid reply envelope you can contact me, and I will send one out to you - Susan Heaford, JUBILEE Project Office, Northumbria University, IMRI, School of Informatics, Lipman Building, Newcastle upon Tyne NE1 8ST – alternatively e-mail me on s.heaford@unn.ac.uk

...and finally

ease place a tick in the relevant box to demonstrate the extent to which you agree with the following statements:
member EIS = Electronic Information Services, such as those mentioned in the box on the ont cover)

	Very much so	Fairly	Sometimes	Hardly	Not at all
ing EIS I find useful/interesting formation	☐	☐	☐	☐	☐
m confident using EIS	☐	☐	☐	☐	☐
S are time saving	☐	☐	☐	☐	☐
ere are enough access points to EIS ailable to me	☐	☐	☐	☐	☐
work would suffer without access to S	☐	☐	☐	☐	☐
se EIS more than print sources	☐	☐	☐	☐	☐

placing a tick in the appropriate box please agree or disagree with the following statements relating to EIS:

	Yes	No
my course the use of EIS is required in some assessed work	☐	☐
lecturers/tutors have taught me how to evaluate the content of EIS	☐	☐
ind it *easier* to access useful information using EIS rather than printed urces	☐	☐
ind it *quicker* to access useful information using EIS rather than printed urces	☐	☐
ere are enough computers available at the university for e to use EIS	☐	☐

Thank you

- Please return your form straight away! -

If you wish to return this questionnaire and there no one to collect it or there is no pre-paid reply envelope you can contact me, and I will send one out to you - Susan Heaford, JUBILEE Project Office, Northumbria University, IMRI, School of Informatics, Lipman Building, Newcastle upon Tyne NE1 8ST – alternatively e-mail me on s.heaford@unn.ac.uk

Many thanks for your time and assistance - Please return your form straight away

This research is part of IMRI's JUBILEE project looking at electronic information services - further information and contact details are available at:

http://is.northumbria.ac.uk/imri

JISC PROJECT | ATION MANAGEMENT RCH INSTITUTE

northumbria UNIVERSITY

Using Electronic Information Services

- This questionnaire asks about 'electronic information' - sources that you use electronically on a computer, such as a web site on the Internet, an online catalogue (OPAC) or database provided by the library, a CD-ROM, or an electronic journal
- The form takes about 5 minutes to complete – just tick the appropriate boxes and complete as much as you can - all replies are anonymous
- This research is part of IMRI's JUBILEE (JISC User Behaviour in Information Seeking: Longitudinal Evaluation of Electronic Information Services) project looking at use of electronic information services

Q.1 **What is/are your main role(s)?**

Q.2 **Are you** ☐ Full time? ☐ Part time?

Q.3 **Age** ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60-69

Q.4 **At work do you have access to your own desktop, networked PC?** ☐ Yes, own PC ☐ Yes, shared ☐ No

Q.5 **Can staff / students readily access a networked PC in the following locations?**

	Yes	No	Don't know		Yes	No	Don't know
Library	☐	☐	☐	Other college PC areas	☐	☐	☐

Q.6 **Generally, how would you describe YOUR OWN skill levels in terms of the following?**

	High	Medium	Low	Don't use
a. Using books	☐	☐	☐	☐
b. Using printed journals	☐	☐	☐	☐
c. Using electronic journals	☐	☐	☐	☐
d. Using CD-ROMS	☐	☐	☐	☐
e. Using databases of journal articles	☐	☐	☐	☐
f. Using Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
g. Evaluating information	☐	☐	☐	☐

Q.7 **Generally, how would you describe *ACADEMIC STAFF* skill levels in terms of the following?**

	High	Medium	Low	Don't know
a. Using books	☐	☐	☐	☐
b. Using printed journals	☐	☐	☐	☐
c. Using electronic journals	☐	☐	☐	☐
d. Using CD-ROMS	☐	☐	☐	☐
e. Using databases of journal articles	☐	☐	☐	☐
f. Using Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
g. Evaluating information	☐	☐	☐	☐

Q.8 **In your experience, what difficulties do *ACADEMIC STAFF* have when using electronic information services?**

Please describe skill levels for the following three groups of students, or leave blank, if not applicable at your college:

Q.9 **Generally, how would you describe *FOUNDATION DEGREE STUDENT* skill levels in terms of the following?**

		High	Medium	Low	Don't know
a.	Using books	☐	☐	☐	☐
b.	Using printed journals	☐	☐	☐	☐
c.	Using electronic journals	☐	☐	☐	☐
d.	Using CD-ROMS	☐	☐	☐	☐
e.	Using databases of journal articles	☐	☐	☐	☐
f.	Using Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
g.	Evaluating information	☐	☐	☐	☐

Q.10 **In your experience, what difficulties do *FOUNDATION DEGREE STUDENTS* have when using electronic information services?**

Q.11 **Generally, how would you describe *MODERN APPRENTICESHIP STUDENT* skill levels in terms of the following?**

		High	Medium	Low	Don't know
a.	Using books	☐	☐	☐	☐
b.	Using printed journals	☐	☐	☐	☐
c.	Using electronic journals	☐	☐	☐	☐
d.	Using CD-ROMS	☐	☐	☐	☐
e.	Using databases of journal articles	☐	☐	☐	☐
f.	Using Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
g.	Evaluating information	☐	☐	☐	☐

Q.12 **In your experience, what difficulties do *MODERN APPRENTICESHIP STUDENTS* have when using electronic information services?**

Q13 **Generally, how would you describe *ADULT & COMMUNITY LEARNER STUDENT* skill levels in terms of the following?**

		High	Medium	Low	Don't know
a.	Using books	☐	☐	☐	☐
b.	Using printed journals	☐	☐	☐	☐
c.	Using electronic journals	☐	☐	☐	☐
d.	Using CD-ROMS	☐	☐	☐	☐
e.	Using databases of journal articles	☐	☐	☐	☐
f.	Using Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
g.	Evaluating information	☐	☐	☐	☐

Q.14 **In your experience, what difficulties do *ADULT & COMMUNITY LEARNER STUDENTS* have when using electronic information services?**

APPENDIX B

JISC PROJECT

INFORMATION MANAGEMENT RESEARCH INSTITUTE

northumbria UNIVERSITY

JUBILEE

JISC User Behaviour in Information Seeking:
Longitudinal Evaluation of Electronic Information Services (EIS)

The following questionnaire is designed to find out about your use of Electronic Information Services (EIS). By EIS we mean sources of information that are accessed electronically, using a computer. Such information resources could take the form of an electronic journal, a CD-ROM, an online database provided by the library or a web site found on the Internet. Any time you are searching and retrieving information using electronic means you are using EIS. This questionnaire should take no longer than five minutes to complete, and all responses remain anonymous. When answering the questions please write your responses or tick in the relevant boxes as appropriate. **Many thanks for your time and assistance.**

Q.1 **Name of college/ university** _____

Q.2 **Department/ School** _____ ☐ Full time ☐ Part time

Q.3 **Main subject area of interest** _____

Q.4 **Age** ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60+

Q.5 **Do you search for information electronically** ☐ Yes ☐ No

Q.6 **At work, do you have access to your own desktop, networked PC?** ☐ Yes ☐ Shared ☐ No

Q.7 **When searching for information electronically, where do you access a computer?**

		Frequently	Sometimes	Rarely	Never
a.	Desktop PC in office	☐	☐	☐	☐
b.	University library PC areas	☐	☐	☐	☐
c.	Other university PC areas	☐	☐	☐	☐
d.	Home	☐	☐	☐	☐
e.	Other (Please state) _____	☐	☐	☐	☐

Q.8 **Of the following to which information resources do you refer?**

		Frequently	Sometimes	Rarely	Never
a.	Library based printed information (books, journals etc)	☐	☐	☐	☐
b.	Non-library printed information	☐	☐	☐	☐
c.	Library web pages	☐	☐	☐	☐
d.	Electronic journals	☐	☐	☐	☐
e.	CD-ROMS	☐	☐	☐	☐
f.	Library subscribed Internet databases	☐	☐	☐	☐
g.	Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
h.	Intranet/ course web pages	☐	☐	☐	☐
i.	Other (Please state) _____	☐	☐	☐	☐

Q.9 **How would you describe your skill levels in terms of the following?**

		Never use	Beginner	Intermediate	Expert
a.	Using basic computer packages (e.g. Word)	☐	☐	☐	☐
b.	Searching for and retrieving information electronically	☐	☐	☐	☐
c.	Evaluating the quality of information found electronically	☐	☐	☐	☐

Q.10 **How do you learn about sources of electronic information that may be useful to you?**

		Frequently	Sometimes	Rarely	Never
a.	Recommendation from academic colleagues	☐	☐	☐	☐
b.	Recommendation from your students	☐	☐	☐	☐
c.	Recommendations from library colleagues	☐	☐	☐	☐
d.	Library publicity	☐	☐	☐	☐
e.	Own research	☐	☐	☐	☐
f.	Other (Please state) _____	☐	☐	☐	☐

Q.11 **Please answer the following questions relating to training in the effective use of EIS?**

		Is such training provided?			Have you participated?	
		Yes	No	Don't know	Yes	No
a.	EIS training offered by library/ learning resources	☐	☐	☐	☐	☐
b.	EIS training as part of Continuing Professional Development	☐	☐	☐	☐	☐

Q.12 **With whom does responsibility lie for the training/ education of students in the use of EIS? (You may tick more than one box)**

		Yes	No
a.	Academic staff	☐	☐
b.	Library/Learning Resource Centre staff	☐	☐
c.	Staff at school/ further education establishments	☐	☐
d.	Students' own responsibility	☐	☐
e.	Other _____	☐	☐

Q.13 **Thinking about the EIS you may have used recently, please complete the following:**

Please list ***useful*** EIS you have used.

Please list any EIS you would ***not*** use again.

Q. 14 **Please indicate whether or not you use EIS in the following areas:**

		Yes	No
a.	Preparation for tutorials/ seminars/ lectures	☐	☐
b.	Researching/ gathering information	☐	☐
c.	Communicating with students and other lecturers	☐	☐
d.	Publishing and dissemination of research	☐	☐
e.	Leisure/ non academic interests	☐	☐
f.	Other (Please state) _____	☐	☐

Q.15 **In your experience what are the *advantages*, if any, of using EIS?**

Q.16 **Similarly, in your experience what are the *disadvantages*, if any, of EIS?**

Q.17 **Please place a tick in the relevant box to demonstrate the extent to which you agree with the following statements:**

		Very much so	Fairly	Sometimes	Hardly	Not at all
a.	Using EIS I find useful/interesting information	☐	☐	☐	☐	☐
b.	I am confident using EIS	☐	☐	☐	☐	☐
c.	EIS are time saving	☐	☐	☐	☐	☐
d.	There are enough student EIS access points	☐	☐	☐	☐	☐
e.	My work would suffer without access to EIS	☐	☐	☐	☐	☐
f.	I use EIS more than print sources	☐	☐	☐	☐	☐

Q. 18 **How do you tell whether or not the information you gain from EIS is accurate/ reliable?**

Q.19 **By placing a tick in the appropriate box please agree or disagree with the following statements relating to EIS:**

		Yes	No
a.	In courses which I teach the use of EIS is required in some assessed work	☐	☐
b.	With students I refer to, and encourage the use of, certain EIS	☐	☐
c.	With students I raise awareness of how to evaluate the content of EIS	☐	☐
d.	I find it easy to obtain useful information using EIS	☐	☐
e.	I find it easy to obtain reliable and accurate information using EIS	☐	☐
f.	I use EIS more than printed sources (i.e. books)	☐	☐
g.	I find it ***easier*** to access useful information using EIS rather than printed sources	☐	☐
h.	I find it ***quicker*** to access useful information using EIS rather than printed sources	☐	☐
i.	Enough computers are available at the university for students to use EIS	☐	☐
j.	Library staff are knowledgeable about the EIS they provide	☐	☐
k.	My work has improved as a result of EIS use	☐	☐
l.	I enjoy a good working relationship with library staff	☐	☐
m.	My work has suffered as a result of EIS use	☐	☐
n.	I depend upon EIS	☐	☐

Q.20 Reflecting on your previous answers, and from your own experience, how, if at all, do you feel the development of EIS has affected the delivery of teaching and learning in higher education?

Q.21 How will/ would the adoption of an institutional Virtual Learning Environment (VLE), such as Blackboard, affect the delivery of teaching and learning?

Many thanks for your time and assistance in completing this questionnaire.

We would be grateful if you could return your completed survey form by:

Please return completed questionnaires to the following address:

Kathryn Ray, JUBILEE Project Manager,
IMRI, Lipman Building,
Northumbria University
Newcastle NE1 8ST

The JUBILEE project web pages, with further information and team contact details are available at: http://is.northumbria.ac.uk/imri

JISC Joint Information Systems Committee

INFORMATION MANAGEMENT RESEARCH INSTITUTE

northumbria UNIVERSITY

JISC PROJECT | INFORMATION MANAGEMENT RESEARCH INSTITUTE | northumbria UNIVERSITY

JUBILEE

JISC User Behaviour in Information Seeking:
Longitudinal Evaluation of Electronic Information Services (EIS)

The following questionnaire is designed to find out about your use of Electronic Information Services (EIS). By EIS we mean sources of information that are accessed electronically, using a computer. Such information resources could take the form of an electronic journal, a CD-ROM, an online database provided by the library or a web site found on the Internet. Any time you are searching and retrieving information using electronic means you are using EIS. This questionnaire should take no longer than five minutes to complete, and all responses remain anonymous. When answering the questions please write your responses or tick in the relevant boxes as appropriate. **Many thanks for your time and assistance.**

Q.1 **Name of college/ university** _____

Q.2 **Age** ☐ 17-19 ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60+

Q.3 **Sex** ☐ Male ☐ Female

Q.4 **Title of course being studied** _____ ☐ Full time ☐ Part time

Q.5 **Qualification to be gained (e.g. AS Level, HND, BSc, MA)** _____

Q.6 **Year of study** ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th ☐ Single year course

Q.7 **When searching for information electronically, where do you access a computer?**

		Frequently	Sometimes	Rarely	Never
a.	University library PC areas	☐	☐	☐	☐
b.	Other university PC areas	☐	☐	☐	☐
c.	Home	☐	☐	☐	☐
d.	Other (Please state) _____	☐	☐	☐	☐

Q.8 **In the course of your studies, to which information resources do you refer?**

		Frequently	Sometimes	Rarely	Never
a.	Library based printed information (books, journals etc)	☐	☐	☐	☐
b.	Non-library printed information	☐	☐	☐	☐
c.	Library web pages	☐	☐	☐	☐
d.	Electronic journals	☐	☐	☐	☐
e.	CD-ROMS	☐	☐	☐	☐
f.	Library subscribed Internet databases	☐	☐	☐	☐
g.	Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
h.	Intranet/ course web pages	☐	☐	☐	☐
i.	Other (Please state) _____	☐	☐	☐	☐

Q.9 **How would you describe your skill level in terms of each of the following?**

		Never use	Beginner	Intermediate	Expert
a.	Using basic computer packages (e.g. Word)	☐	☐	☐	☐
b.	Searching for and retrieving information electronically	☐	☐	☐	☐
c.	Evaluating the quality of information found electronically	☐	☐	☐	☐

Q.10 **How do you learn about sources of electronic information that may be useful to you?**

		Frequently	Sometimes	Rarely	Never
a.	Recommendation from friend/ other student	☐	☐	☐	☐
b.	Recommendation from lecturer	☐	☐	☐	☐
c.	Library publicity	☐	☐	☐	☐
d.	Own research	☐	☐	☐	☐
e.	Other (Please state) _____	☐	☐	☐	☐

Q.11 **Please answer the following questions relating to training in the effective use of EIS?**

		Is such training provided?			Have you participated?	
		Yes	No	Don't know	Yes	No
a.	EIS training offered by library	☐	☐	☐	☐	☐
b.	EIS training offered as part of academic course	☐	☐	☐	☐	☐

Q.12 **Thinking about the EIS you may have used in the course of your recent studies, please complete the following:**

Please list ***useful*** EIS you have used.

Please list any EIS you would ***not*** use again.

Q. 13 **Please indicate whether or not you use EIS in the following areas:**

		Yes	No
a.	Preparation for tutorials/ seminars/ lectures	☐	☐
b.	Researching/ gathering information	☐	☐
c.	Communicating with other students/ lecturers	☐	☐
d.	Writing assignments	☐	☐
e.	Leisure/ non academic interests	☐	☐
f.	Other (Please state) _____	☐	☐

Q.14 **In your experience what are the *advantages*, if any, of using EIS in your studies?**

Q.15 **Similarly, in your experience what are the *disadvantages*, if any, of using EIS?**

Q.16 **Please place a tick in the relevant box to demonstrate the extent to which you agree with the following statements:**

		Very much so	Fairly	Sometimes	Hardly	Not at all
a.	Using EIS I find useful/interesting information	☐	☐	☐	☐	☐
b.	I am confident using EIS	☐	☐	☐	☐	☐
c.	EIS are time saving	☐	☐	☐	☐	☐
d.	There are enough access points to EIS available to me	☐	☐	☐	☐	☐
e.	My work would suffer without access to EIS	☐	☐	☐	☐	☐
f.	I use EIS more than print sources	☐	☐	☐	☐	☐

Q. 17 **How do you tell whether or not the information you gain from EIS is accurate/ reliable?**

Q.18 **By placing a tick in the appropriate box please agree or disagree with the following statements relating to EIS:**

		Yes	No
a.	In my course the use of EIS is required in some assessed work	☐	☐
b.	My lecturers/ tutors refer to and encourage the use of certain EIS	☐	☐
c.	My lecturers/tutors have taught me how to evaluate the content of EIS	☐	☐
d.	I find it easy to obtain useful information using EIS	☐	☐
e.	I find it easy to obtain reliable and accurate information using EIS	☐	☐
f.	I use EIS more than printed sources (i.e. books)	☐	☐
g.	I find it ***easier*** to access useful information using EIS rather than printed sources	☐	☐
h.	I find it ***quicker*** to access useful information using EIS rather than printed sources	☐	☐
i.	There are enough computers available at the university for me to use EIS	☐	☐
j.	Library staff are knowledgeable about the EIS they provide	☐	☐
k.	My work has improved as a result of EIS use	☐	☐
l.	My work has suffered as a result of EIS use	☐	☐
m.	I depend upon EIS	☐	☐

Many thanks for your time and assistance in completing this questionnaire.
We would be grateful if you could return your completed survey form by:

Please return completed questionnaires to: Kathryn Ray, IMRI, Lipman Building, University of Northumbria, Newcastle NE1 8ST

The JUBILEE project web pages, with further information and team contact details are available at: http://is.northumbria.ac.uk/imri

Volunteers Needed

The **JUBILEE** project team is looking for volunteers to take part in a brief email interview. The purpose of which will be to ask you a few focused questions regarding what use, if any, you make of Electronic Information Services (EIS).

There are no 'right' or 'wrong' answers to the questions. We are only interested in your thoughts and opinions.

We can assure you all information obtained from the interview will remain anonymous.

If you would like to take part, please complete the following:

Name: .....

Email address: .....

Thank you, we will be in touch shortly

JISC ATION MANAGEMENT RCH INSTITUTE PROJECT

northumbria UNIVERSITY

JUBILEE

JISC User Behaviour in Information Seeking:
Longitudinal Evaluation of Electronic Information Services (EIS)

The following questionnaire is designed to find out about Electronic Information Services (EIS). By EIS we mean sources of information that are accessed electronically, using a computer. Such information resources could take the form of an electronic journal, a CD-ROM, an online database provided by the library or a web site found on the Internet. This questionnaire should take no longer than five minutes to complete, and all responses remain anonymous. When answering the questions please write your responses or tick in the relevant boxes as appropriate.
Many thanks for your time and assistance.

Q.1 **Name of college/ university** _____

Q.2 **Professional subject specialism** _____ ☐ Full time ☐ Part time

Q.3 **Your main role(s)** _____

Q.4 **In which library building(s) do you generally work?** _____

Q.5 **Age** ☐ 16-19 ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60+

Q.6 **At work do you have access to your own desktop, networked PC?** ☐ Yes ☐ Shared ☐ No

Q.7 **Generally, how would you describe your own skill levels in terms of the following?**

		Never use	Beginner	Intermediate	Expert
a.	Using basic computer packages (e.g. Word)	☐	☐	☐	☐
b.	Searching for and retrieving information electronically	☐	☐	☐	☐
c.	Evaluating the quality of information found electronically	☐	☐	☐	☐

Q.8 **Can users readily access a networked PC in the following locations?**

		Frequently	Sometimes	Rarely	Never
a.	Library PC areas	☐	☐	☐	☐
b.	Other university PC areas	☐	☐	☐	☐

Q.9 **Generally, how would you describe *ACADEMIC STAFF* skill levels in terms of the following?**

		Never use	Beginner	Intermediate	Expert
a.	Using basic computer packages (e.g. Word)	☐	☐	☐	☐
b.	Searching for and retrieving information electronically	☐	☐	☐	☐
c.	Evaluating the quality of information found electronically	☐	☐	☐	☐

Q.10 **Generally, how would you describe *STUDENT* skill levels in terms of the following?**

		Never use	Beginner	Intermediate	Expert
a.	Using basic computer packages (e.g. Word)	☐	☐	☐	☐
b.	Searching for and retrieving information electronically	☐	☐	☐	☐
c.	Evaluating the quality of information found electronically	☐	☐	☐	☐

Q.11 **In your professional experience what, if at all, are the main difficulties faced by users when attempting to access EIS?**

Q.12 **Are you personally involved in the delivery of training/ user education?** ☐ Yes ☐ No

Q.13 **Does the library provide training or user education in the use of EIS?**

		Staff			Students		
		Yes	No	Don't know	Yes	No	Don't know
a.	Induction	☐	☐	☐	☐	☐	☐
b.	Institution-wide, structured library training programme	☐	☐	☐	☐	☐	☐
c.	Training in collaboration with academic staff tailored to individual discipline/subject needs	☐	☐	☐	☐	☐	☐
d.	One-off timetabled sessions upon request from individual user/ groups of users	☐	☐	☐	☐	☐	☐
e.	Ad hoc support for individual EIS related user enquiries	☐	☐	☐	☐	☐	☐
f.	Web based tutorials and library provided online training support	☐	☐	☐	☐	☐	☐
g.	Other (Please state) _____	☐	☐	☐	☐	☐	☐

Q.14 **In your opinion with whom does responsibility lie for the training/ education of students in the use of EIS?**

		Yes	No
a.	Academic staff	☐	☐
b.	Library/Learning Resource Centre staff	☐	☐
c.	Staff at school/ further education establishments	☐	☐
d.	Students' own responsibility	☐	☐
e.	Other_____	☐	☐

Q.15 **How do you feel the development of EIS has affected the delivery of any training, if at all?**

Q.16 **Please place a tick in the relevant box to demonstrate the extent to which you agree with the following statements:**

		Very much so	Fairly	Sometimes	Hardly	Not at all
a.	Through EIS users find useful/interesting information	☐	☐	☐	☐	☐
b.	Users are confident using EIS	☐	☐	☐	☐	☐
c.	EIS are time saving for users	☐	☐	☐	☐	☐
d.	There are enough student EIS access points	☐	☐	☐	☐	☐
e.	Users' work would suffer without access to EIS	☐	☐	☐	☐	☐
f.	Users' refer to EIS more than print sources	☐	☐	☐	☐	☐

Q.17 **Please agree or disagree with the following statements relating to EIS:**

		Yes	No
a.	With students I refer to, and encourage the use of, certain EIS rather than printed material	☐	☐
b.	With students I raise awareness of how to evaluate the content of EIS	☐	☐
c.	I find it ***easier*** to access useful information using EIS rather than printed sources	☐	☐
d.	I find it ***quicker*** to access useful information using EIS rather than printed sources	☐	☐
e.	I enjoy a good working relationship with academic staff	☐	☐
f.	I am confident about my knowledge of EIS	☐	☐
g.	Users' expectations of what EIS can provide are realistic	☐	☐
h.	Users' expectations of the library's level of EIS provision are realistic	☐	☐
i.	The library meets the needs of its users in terms of EIS provision	☐	☐
j.	There is great demand for EIS services	☐	☐
k.	The budget available for EIS enables demand to be met	☐	☐
l.	With increased provision of EIS, use of print material has reduced	☐	☐
m.	There is an increasing over-reliance on EIS by users	☐	☐
n.	Enabling remote access to EIS has reduced physical use of the library	☐	☐

Q.18 How will/ would the adoption of an institutional Virtual Learning Environment (VLE), such as Blackboard, affect the provision and promotion of EIS to potential users?

Q.19 Reflecting on your previous answers, and from your own experience, how – if at all – do you feel the development of EIS has affected the provision of library information in higher education?

Many thanks for your time and assistance in completing this questionnaire.

We would be grateful if you could return your completed survey form by:

Please return completed questionnaires to:

Kathryn Ray, JUBILEE Project Manager
IMRI, Lipman Building
University of Northumbria
Newcastle NE1 8ST

The JUBILEE project web pages, with further information and team contact details are available at: http://is.northumbria.ac.uk/imri

JISC Joint Information Systems Committee

INFORMATION MANAGEMENT RESEARCH INSTITUTE

northumbria UNIVERSITY

APPENDIX C

Frequency table for 29 cycle 5 FE Librarians

Frequency Table

THE NAMES OF THE PARTICIPANT INSTITUTIONS ARE BEING COVERED TO PROTECT ANONYMITY

College

	Frequency	Percent	Valid Percent	Cumulative Percent
	1	3.4	3.4	3.4
	1	3.4	3.4	6.9
	3	10.3	10.3	17.2
	1	3.4	3.4	20.7
	1	3.4	3.4	24.1
	1	3.4	3.4	27.6
	1	3.4	3.4	31.0
	1	3.4	3.4	34.5
	1	3.4	3.4	37.9
	1	3.4	3.4	41.4
	1	3.4	3.4	44.8
	1	3.4	3.4	48.3
	1	3.4	3.4	51.7
	1	3.4	3.4	55.2
	1	3.4	3.4	58.6
	1	3.4	3.4	62.1
	1	3.4	3.4	65.5
	3	10.3	10.3	75.9
	1	3.4	3.4	79.3
	1	3.4	3.4	82.8
	1	3.4	3.4	86.2
	1	3.4	3.4	89.7
	1	3.4	3.4	93.1
	1	3.4	3.4	96.6
	1	3.4	3.4	100.0
	29	100.0	100.0	

Subject

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	librarian	29	100.0	100.0	100.0

1.What is/are your main role(s)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	28	96.6	96.6	96.6
	No	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

2.FT/PT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full Time	27	93.1	93.1	93.1
	Part Time	2	6.9	6.9	100.0
	Total	29	100.0	100.0	

3.Age of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30-39	6	20.7	20.7	20.7
	40-49	12	41.4	41.4	62.1
	50-59	9	31.0	31.0	93.1
	60-69	2	6.9	6.9	100.0
	Total	29	100.0	100.0	

4.At work do you have access to your own desktop, networked PC?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	own PC, yes	26	89.7	89.7	89.7
	Shared, yes	3	10.3	10.3	100.0
	Total	29	100.0	100.0	

5a.Can staff/students readily access a networked PC in the following locations. (LIBRARY)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	28	96.6	96.6	96.6
	No	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

5b.Can staff/students readily access a networked PC in the following locations. (other college PC areas)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	28	96.6	100.0	100.0
Missing	999	1	3.4		
Total		29	100.0		

6a.Using Books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	29	100.0	100.0	100.0

6b.Using Printed Journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	27	93.1	93.1	93.1
	Medium	2	6.9	6.9	100.0
	Total	29	100.0	100.0	

6c.Using Electronic Journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	17	58.6	58.6	58.6
	Medium	12	41.4	41.4	100.0
	Total	29	100.0	100.0	

6d.Using CD-roms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	16	55.2	55.2	55.2
	Medium	12	41.4	41.4	96.6
	Don't use	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

6e.Using database of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	20	69.0	69.0	69.0
	Medium	9	31.0	31.0	100.0
	Total	29	100.0	100.0	

6f.Using internet search engines (google, altavista etc)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	20	69.0	69.0	69.0
	Medium	9	31.0	31.0	100.0
	Total	29	100.0	100.0	

6g.Evaluating information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	27	93.1	93.1	93.1
	Medium	2	6.9	6.9	100.0
	Total	29	100.0	100.0	

7a.Using Books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	12	41.4	41.4	41.4
	Medium	15	51.7	51.7	93.1
	Don't Know	2	6.9	6.9	100.0
	Total	29	100.0	100.0	

7b.Using Printed Journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	10	34.5	34.5	34.5
	Medium	13	44.8	44.8	79.3
	Low	4	13.8	13.8	93.1
	Don't know	2	6.9	6.9	100.0
	Total	29	100.0	100.0	

7c.Using Electronic Journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	1	3.4	3.4	3.4
	Medium	8	27.6	27.6	31.0
	Low	17	58.6	58.6	89.7
	Don't know	3	10.3	10.3	100.0
	Total	29	100.0	100.0	

7d.Using CD-Roms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	2	6.9	6.9	6.9
	Medium	13	44.8	44.8	51.7
	Low	12	41.4	41.4	93.1
	Don't know	2	6.9	6.9	100.0
	Total	29	100.0	100.0	

7e.Using database of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	1	3.4	3.4	3.4
	Medium	6	20.7	20.7	24.1
	Low	18	62.1	62.1	86.2
	Don't know	4	13.8	13.8	100.0
	Total	29	100.0	100.0	

7f.Using internet search engines (Google, Altavista etc)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	5	17.2	17.2	17.2
	Medium	14	48.3	48.3	65.5
	Low	5	17.2	17.2	82.8
	Don't know	5	17.2	17.2	100.0
	Total	29	100.0	100.0	

7g.Evaluating Information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	8	27.6	27.6	27.6
	Medium	10	34.5	34.5	62.1
	Low	3	10.3	10.3	72.4
	Don't know	8	27.6	27.6	100.0
	Total	29	100.0	100.0	

8.In your experience, what difficulties do ACADEMIC STAFF have when using electronic service?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	16	55.2	57.1	57.1
	No	12	41.4	42.9	100.0
	Total	28	96.6	100.0	
Missing	999	1	3.4		
Total		29	100.0		

9a.FD, Using books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	7	24.1	33.3	33.3
	Medium	11	37.9	52.4	85.7
	Low	1	3.4	4.8	90.5
	Don't Know	2	6.9	9.5	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

9b.FD, Using printed journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	4	13.8	19.0	19.0
	Medium	11	37.9	52.4	71.4
	Low	4	13.8	19.0	90.5
	Don't know	2	6.9	9.5	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

9c.FD, Using electronic journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	2	6.9	9.5	9.5
	Medium	4	13.8	19.0	28.6
	Low	10	34.5	47.6	76.2
	Don't Know	5	17.2	23.8	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

9d.FD, Using CD-Roms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	2	6.9	9.5	9.5
	Medium	6	20.7	28.6	38.1
	Low	6	20.7	28.6	66.7
	Don't know	7	24.1	33.3	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

9e.FD, Using database of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	1	3.4	4.8	4.8
	Medium	3	10.3	14.3	19.0
	Low	14	48.3	66.7	85.7
	Don't Know	3	10.3	14.3	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

9f.FD, Using internet search engines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	6	20.7	28.6	28.6
	Medium	7	24.1	33.3	61.9
	Low	4	13.8	19.0	81.0
	Don't Know	4	13.8	19.0	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

9g.FD, evaluating information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	2	6.9	10.0	10.0
	medium	8	27.6	40.0	50.0
	Low	3	10.3	15.0	65.0
	Don't know	7	24.1	35.0	100.0
	Total	20	69.0	100.0	
Missing	999	9	31.0		
Total		29	100.0		

10.In your experience, what difficulties do FOUNDATION DEGREE STUDENTS have when using electronic information services?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	5	17.2	25.0	25.0
	No	15	51.7	75.0	100.0
	Total	20	69.0	100.0	
Missing	999	9	31.0		
Total		29	100.0		

11a.MAp Student, Using books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	1	3.4	4.8	4.8
	Medium	4	13.8	19.0	23.8
	Low	11	37.9	52.4	76.2
	Don't know	5	17.2	23.8	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

11b.MAp Student, Using printed journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Medium	1	3.4	4.8	4.8
	Low	13	44.8	61.9	66.7
	Don't know	7	24.1	33.3	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

11c.MAp Student, Using electronic journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	12	41.4	57.1	57.1
	Don't know	9	31.0	42.9	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

11d.MAp Student, Using Cd-Roms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Medium	4	13.8	19.0	19.0
	Low	10	34.5	47.6	66.7
	Don't know	7	24.1	33.3	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

11e.MAp Student, Using database of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	15	51.7	71.4	71.4
	Don't know	6	20.7	28.6	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

11f.MAp Student, Using Internet search engines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	5	17.2	23.8	23.8
	Medium	5	17.2	23.8	47.6
	Low	4	13.8	19.0	66.7
	Don't know	7	24.1	33.3	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

11g.MAp Student, evaluating information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	13	44.8	61.9	61.9
	Don't know	8	27.6	38.1	100.0
	Total	21	72.4	100.0	
Missing	999	8	27.6		
Total		29	100.0		

12.In your experience what difficulties do MODERN APPRENTICESHIP STUDENTS have when using electronic information services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	34.5	50.0	50.0
	no	10	34.5	50.0	100.0
	Total	20	69.0	100.0	
Missing	999	9	31.0		
Total		29	100.0		

13a.ACL, Using Books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	7	24.1	28.0	28.0
	Medium	9	31.0	36.0	64.0
	Low	4	13.8	16.0	80.0
	Don't know	5	17.2	20.0	100.0
	Total	25	86.2	100.0	
Missing	999	4	13.8		
Total		29	100.0		

13b.ALS, Uisng Printed journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	1	3.4	4.0	4.0
	Medium	9	31.0	36.0	40.0
	Low	9	31.0	36.0	76.0
	Don't know	6	20.7	24.0	100.0
	Total	25	86.2	100.0	
Missing	999	4	13.8		
Total		29	100.0		

13c.ACL, Using electronic journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Medium	1	3.4	4.0	4.0
	Low	17	58.6	68.0	72.0
	Don't know	7	24.1	28.0	100.0
	Total	25	86.2	100.0	
Missing	999	4	13.8		
Total		29	100.0		

13d.ACL, Using CD-roms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Medium	2	6.9	8.3	8.3
	Low	15	51.7	62.5	70.8
	Don't know	7	24.1	29.2	100.0
	Total	24	82.8	100.0	
Missing	999	5	17.2		
Total		29	100.0		

13e.ACL, Using database of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Medium	3	10.3	12.0	12.0
	Low	15	51.7	60.0	72.0
	Don't know	7	24.1	28.0	100.0
	Total	25	86.2	100.0	
Missing	999	4	13.8		
Total		29	100.0		

13f.ACL, Using Internet search engines (google, altavista etc)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	2	6.9	8.0	8.0
	Medium	8	27.6	32.0	40.0
	Low	8	27.6	32.0	72.0
	Don't know	7	24.1	28.0	100.0
	Total	25	86.2	100.0	
Missing	999	4	13.8		
Total		29	100.0		

13g.ACL, evaluating Information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Medium	5	17.2	20.0	20.0
	Low	10	34.5	40.0	60.0
	Don't know	10	34.5	40.0	100.0
	Total	25	86.2	100.0	
Missing	999	4	13.8		
Total		29	100.0		

14.In your experience what difficulties do ADULT AND COMMUNITY LEARNER STUDENTS have when using electronic information services?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	15	51.7	62.5	62.5
	no	9	31.0	37.5	100.0
	Total	24	82.8	100.0	
Missing	999	5	17.2		
Total		29	100.0		

15a.ACADEMIC STAFF, Does the library provide training in the use of electronic information services....(General introduction)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	23	79.3	85.2	85.2
	no	4	13.8	14.8	100.0
	Total	27	93.1	100.0	
Missing	999	2	6.9		
Total		29	100.0		

15b.ACADEMIC STAFF, Structured library training programme

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	6	20.7	23.1	23.1
	no	20	69.0	76.9	100.0
	Total	26	89.7	100.0	
Missing	999	3	10.3		
Total		29	100.0		

15c.ACADEMIC STAFF, One-off timetabled face to face sessions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	24	82.8	82.8	82.8
	no	5	17.2	17.2	100.0
	Total	29	100.0	100.0	

15d.ACADEMIC STAFF, Self help materials

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	20	69.0	76.9	76.9
	no	6	20.7	23.1	100.0
	Total	26	89.7	100.0	
Missing	999	3	10.3		
Total		29	100.0		

15e.STUDENTS, General introuduction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	27	93.1	96.4	96.4
	no	1	3.4	3.6	100.0
	Total	28	96.6	100.0	
Missing	999	1	3.4		
Total		29	100.0		

15f.STUDENTS, Structured Library training prog.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	11	37.9	44.0	44.0
	no	14	48.3	56.0	100.0
	Total	25	86.2	100.0	
Missing	999	4	13.8		
Total		29	100.0		

15g.STUDENTS, One off timetabled sessions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	27	93.1	93.1	93.1
	no	2	6.9	6.9	100.0
	Total	29	100.0	100.0	

15h.STUDENTS, Self help materials

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	20	69.0	76.9	76.9
	no	6	20.7	23.1	100.0
	Total	26	89.7	100.0	
Missing	999	3	10.3		
Total		29	100.0		

16a.Training, Academic staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	26	89.7	100.0	100.0
Missing	999	3	10.3		
Total		29	100.0		

16b.College Library Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	28	96.6	100.0	100.0
Missing	999	1	3.4		
Total		29	100.0		

16c.Partner University Library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	11	37.9	100.0	100.0
Missing	999	18	62.1		
Total		29	100.0		

16d.Employers where learning is work-based

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	4	13.8	100.0	100.0
Missing	999	25	86.2		
Total		29	100.0		

16e.Staff at school prior to students starting college

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	11	37.9	100.0	100.0
Missing	999	18	62.1		
Total		29	100.0		

16f.Students own responsibility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	16	55.2	100.0	100.0
Missing	999	13	44.8		
Total		29	100.0		

16g.Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	3	10.3	100.0	100.0
Missing	999	25	86.2		
	System	1	3.4		
	Total	26	89.7		
Total		29	100.0		

17a.Users are confident using EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	2	6.9	7.1	7.1
	Sometimes	26	89.7	92.9	100.0
	Total	28	96.6	100.0	
Missing	999	1	3.4		
Total		29	100.0		

17b.With students, I refer to and encourage use of EIS rather than printed material

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes	27	93.1	96.4	96.4
	Never	1	3.4	3.6	100.0
	Total	28	96.6	100.0	
Missing	999	1	3.4		
Total		29	100.0		

17c.With students i raise awareness of how to evaluate the content of EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	13	44.8	46.4	46.4
	Sometimes	14	48.3	50.0	96.4
	Never	1	3.4	3.6	100.0
	Total	28	96.6	100.0	
Missing	999	1	3.4		
Total		29	100.0		

17d.I find it easier to access useful information using EIS rather than printed sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	2	6.9	6.9	6.9
	Sometimes	26	89.7	89.7	96.6
	Never	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

7e.I find it quicker to access useful information using EIS rather than printed sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	2	6.9	6.9	6.9
	Sometimes	26	89.7	89.7	96.6
	Never	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

17f.I enjoy a good working relationship with academic staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	20	69.0	71.4	71.4
	Sometimes	7	24.1	25.0	96.4
	Never	1	3.4	3.6	100.0
	Total	28	96.6	100.0	
Missing	System	1	3.4		
Total		29	100.0		

17g.I am confident about my knowledge of EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	13	44.8	44.8	44.8
	Sometimes	16	55.2	55.2	100.0
	Total	29	100.0	100.0	

17h.Users' expectations of what EIS can provide are realistic

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	2	6.9	6.9	6.9
	Sometimes	23	79.3	79.3	86.2
	Never	4	13.8	13.8	100.0
	Total	29	100.0	100.0	

17i.Users' expectations of the llibrary's level of EIS provision are realistic

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	2	6.9	6.9	6.9
	Sometimes	24	82.8	82.8	89.7
	Never	3	10.3	10.3	100.0
	Total	29	100.0	100.0	

17j.The library meets the needs of its users in terms of EIS provision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	5	17.2	17.2	17.2
	Sometimes	24	82.8	82.8	100.0
	Total	29	100.0	100.0	

17k.There is a great demand for EIS services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	2	6.9	6.9	6.9
	Sometimes	24	82.8	82.8	89.7
	Never	3	10.3	10.3	100.0
	Total	29	100.0	100.0	

17l.The budget available for EIS enables demand to be met

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	4	13.8	13.8	13.8
	Sometimes	16	55.2	55.2	69.0
	Never	9	31.0	31.0	100.0
	Total	29	100.0	100.0	

17m.As provision of EIS has increased, use of print material has reduced

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	4	13.8	13.8	13.8
	Sometimes	22	75.9	75.9	89.7
	Never	3	10.3	10.3	100.0
	Total	29	100.0	100.0	

17n.There is an increasing over-reliance on EIS by users

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	4	13.8	13.8	13.8
	Sometimes	21	72.4	72.4	86.2
	Never	4	13.8	13.8	100.0
	Total	29	100.0	100.0	

17o.Enabling remote access to EIS has reduced physical use of the library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	1	3.4	3.7	3.7
	Sometimes	15	51.7	55.6	59.3
	Never	11	37.9	40.7	100.0
	Total	27	93.1	100.0	
Missing	999	2	6.9		
Total		29	100.0		

Frequency tables for 64 Cycle 5 FE Academic Staff

Frequency Table

College

	Frequency	Percent	Valid Percent	Cumulative Percent
THE NAMES OF THE PARTICIPANT INSTITUTIONS ARE BEING COVERED TO PROTECT ANONYMITY	1	1.6	1.6	1.6
	4	6.3	6.3	7.8
	6	9.4	9.4	17.2
	2	3.1	3.1	20.3
	2	3.1	3.1	23.4
	2	3.1	3.1	26.6
	3	4.7	4.7	31.3
	1	1.6	1.6	32.8
	2	3.1	3.1	35.9
	2	3.1	3.1	39.1
	2	3.1	3.1	42.2
	5	7.8	7.8	50.0
	1	1.6	1.6	51.6
	2	3.1	3.1	54.7
	3	4.7	4.7	59.4
	1	1.6	1.6	60.9
	8	12.5	12.5	73.4
	1	1.6	1.6	75.0
	1	1.6	1.6	76.6
	1	1.6	1.6	78.1
	2	3.1	3.1	81.3
	1	1.6	1.6	82.8
	1	1.6	1.6	84.4
	3	4.7	4.7	89.1
	1	1.6	1.6	90.6
	1	1.6	1.6	92.2
	1	1.6	1.6	93.8
	2	3.1	3.1	96.9
	1	1.6	1.6	98.4
	1	1.6	1.6	100.0
	64	100.0	100.0	

Subject

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Foundation degree Early Years	14	21.9	21.9	21.9
	MAp. Catering/Hospitality	7	10.9	10.9	32.8
	English Literature A level	16	25.0	25.0	57.8
	Business A level	11	17.2	17.2	75.0
	Biology A level	16	25.0	25.0	100.0
	Total	64	100.0	100.0	

1.What is/are your main teaching subject(s)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	63	98.4	100.0	100.0
Missing	999	1	1.6		
Total		64	100.0		

2.FT/PT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full Time	54	84.4	85.7	85.7
	Part Time	9	14.1	14.3	100.0
	Total	63	98.4	100.0	
Missing	999	1	1.6		
Total		64	100.0		

3.Age of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-29	4	6.3	6.3	6.3
	30-39	9	14.1	14.1	20.3
	40-49	24	37.5	37.5	57.8
	50-59	25	39.1	39.1	96.9
	60-69	2	3.1	3.1	100.0
	Total	64	100.0	100.0	

4.At work do you have access to your own desktop, networked PC?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Own PC, yes	30	46.9	46.9	46.9
	Shared PC, Yes	33	51.6	51.6	98.4
	No	1	1.6	1.6	100.0
	Total	64	100.0	100.0	

5.Do you search for information elctronically?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	61	95.3	95.3	95.3
	No	3	4.7	4.7	100.0
	Total	64	100.0	100.0	

6a.Desktop PC in office

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	45	70.3	80.4	80.4
	Monthly	8	12.5	14.3	94.6
	Never	3	4.7	5.4	100.0
	Total	56	87.5	100.0	
Missing	999	8	12.5		
Total		64	100.0		

6b.College Library PC areas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	5	7.8	15.2	15.2
	Monthly	9	14.1	27.3	42.4
	Never	19	29.7	57.6	100.0
	Total	33	51.6	100.0	
Missing	999	31	48.4		
Total		64	100.0		

6c.Other college PC areas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	22	34.4	55.0	55.0
	Monthly	6	9.4	15.0	70.0
	Never	12	18.8	30.0	100.0
	Total	40	62.5	100.0	
Missing	999	24	37.5		
Total		64	100.0		

6d.Home

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	36	56.3	69.2	69.2
	Monthly	11	17.2	21.2	90.4
	Never	5	7.8	9.6	100.0
	Total	52	81.3	100.0	
Missing	999	12	18.8		
Total		64	100.0		

6e.Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	3	4.7	50.0	50.0
	Monthly	1	1.6	16.7	66.7
	Never	2	3.1	33.3	100.0
	Total	6	9.4	100.0	
Missing	999	57	89.1		
	System	1	1.6		
	Total	58	90.6		
Total		64	100.0		

7a.Recommendations from academic colleagues

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	57	89.1	100.0	100.0
Missing	999	7	10.9		
Total		64	100.0		

7b.Recommendations from your students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	26	40.6	100.0	100.0
Missing	999	38	59.4		
Total		64	100.0		

7c.Recommendations from library colleagues

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	27	42.2	100.0	100.0
Missing	999	37	57.8		
Total		64	100.0		

7d.Libary leaflets/posters

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	22	34.4	100.0	100.0
Missing	999	42	65.6		
Total		64	100.0		

7e.own research

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	53	82.8	100.0	100.0
Missing	999	11	17.2		
Total		64	100.0		

7f.Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	14	21.9	100.0	100.0
Missing	999	50	78.1		
Total		64	100.0		

8a.Books From the college library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	22	34.4	34.9	34.9
	Monthly	37	57.8	58.7	93.7
	Never	4	6.3	6.3	100.0
	Total	63	98.4	100.0	
Missing	999	1	1.6		
Total		64	100.0		

8b.Printed journals from the college libray

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	15	23.4	25.9	25.9
	Monthly	29	45.3	50.0	75.9
	Never	14	21.9	24.1	100.0
	Total	58	90.6	100.0	
Missing	999	6	9.4		
Total		64	100.0		

8c.Electronic journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	8	12.5	14.3	14.3
	Monthly	20	31.3	35.7	50.0
	Never	28	43.8	50.0	100.0
	Total	56	87.5	100.0	
Missing	999	8	12.5		
Total		64	100.0		

8d.CD-ROMS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	9	14.1	15.8	15.8
	Monthly	31	48.4	54.4	70.2
	Never	17	26.6	29.8	100.0
	Total	57	89.1	100.0	
Missing	999	7	10.9		
Total		64	100.0		

8e.Databases of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	2	3.1	4.0	4.0
	Monthly	19	29.7	38.0	42.0
	Never	29	45.3	58.0	100.0
	Total	50	78.1	100.0	
Missing	999	14	21.9		
Total		64	100.0		

8f.Internet search engines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	49	76.6	79.0	79.0
	Monthly	10	15.6	16.1	95.2
	Never	3	4.7	4.8	100.0
	Total	62	96.9	100.0	
Missing	999	2	3.1		
Total		64	100.0		

8g.College intranet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	43	67.2	70.5	70.5
	Monthly	11	17.2	18.0	88.5
	Never	7	10.9	11.5	100.0
	Total	61	95.3	100.0	
Missing	999	3	4.7		
Total		64	100.0		

8h.Own books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	51	79.7	82.3	82.3
	Monthly	11	17.2	17.7	100.0
	Total	62	96.9	100.0	
Missing	999	2	3.1		
Total		64	100.0		

8i.Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	3	4.7	75.0	75.0
	Never	1	1.6	25.0	100.0
	Total	4	6.3	100.0	
Missing	999	59	92.2		
	System	1	1.6		
	Total	60	93.8		
Total		64	100.0		

9a.Books from the college library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	easy	59	92.2	98.3	98.3
	hard	1	1.6	1.7	100.0
	Total	60	93.8	100.0	
Missing	999	4	6.3		
Total		64	100.0		

9b.Printed journals from the college library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	easy	42	65.6	91.3	91.3
	hard	4	6.3	8.7	100.0
	Total	46	71.9	100.0	
Missing	999	18	28.1		
Total		64	100.0		

9c.Electronic journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	easy	21	32.8	61.8	61.8
	hard	13	20.3	38.2	100.0
	Total	34	53.1	100.0	
Missing	999	29	45.3		
	System	1	1.6		
	Total	30	46.9		
Total		64	100.0		

9d.CD-ROMS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	easy	40	62.5	88.9	88.9
	hard	5	7.8	11.1	100.0
	Total	45	70.3	100.0	
Missing	999	18	28.1		
	System	1	1.6		
	Total	19	29.7		
Total		64	100.0		

9e.Databases of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	easy	13	20.3	48.1	48.1
	hard	14	21.9	51.9	100.0
	Total	27	42.2	100.0	
Missing	999	36	56.3		
	System	1	1.6		
	Total	37	57.8		
Total		64	100.0		

9f.Internet search engines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	easy	56	87.5	93.3	93.3
	hard	4	6.3	6.7	100.0
	Total	60	93.8	100.0	
Missing	999	4	6.3		
Total		64	100.0		

9g.College intranet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	easy	51	79.7	87.9	87.9
	hard	7	10.9	12.1	100.0
	Total	58	90.6	100.0	
Missing	999	6	9.4		
Total		64	100.0		

9h.Own books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	easy	56	87.5	100.0	100.0
Missing	999	8	12.5		
Total		64	100.0		

9i.Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	1	1.6	100.0	100.0
Missing	999	63	98.4		
Total		64	100.0		

10a.TRAINING: Session from college library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	43	67.2	69.4	69.4
	no	11	17.2	17.7	87.1
	don't know	8	12.5	12.9	100.0
	Total	62	96.9	100.0	
Missing	999	2	3.1		
Total		64	100.0		

10b.TRAINING: Session partner university staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	10	15.6	16.9	16.9
	No	24	37.5	40.7	57.6
	Don't know	25	39.1	42.4	100.0
	Total	59	92.2	100.0	
Missing	999	5	7.8		
Total		64	100.0		

10c.TRAINING: other provider, eg. external course.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	34	53.1	55.7	55.7
	no	15	23.4	24.6	80.3
	don't know	12	18.8	19.7	100.0
	Total	61	95.3	100.0	
Missing	999	3	4.7		
Total		64	100.0		

10d.PARTICIPATED: Session from college library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	34	53.1	72.3	72.3
	No	13	20.3	27.7	100.0
	Total	47	73.4	100.0	
Missing	999	17	26.6		
Total		64	100.0		

10e.PARTICIPATED: Partner university staff session

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	6	9.4	19.4	19.4
	No	25	39.1	80.6	100.0
	Total	31	48.4	100.0	
Missing	999	33	51.6		
Total		64	100.0		

10f.PARTICIPATED: Training session from another provider, e.g. external course

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	23	35.9	56.1	56.1
	No	18	28.1	43.9	100.0
	Total	41	64.1	100.0	
Missing	999	22	34.4		
	System	1	1.6		
	Total	23	35.9		
Total		64	100.0		

11a.Academic staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	51	79.7	100.0	100.0
Missing	999	13	20.3		
Total		64	100.0		

11b.College libray staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	55	85.9	100.0	100.0
Missing	999	9	14.1		
Total		64	100.0		

11c.Partner university library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	13	20.3	100.0	100.0
Missing	999	51	79.7		
Total		64	100.0		

11d.Employers where work is based

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	25	39.1	100.0	100.0
Missing	999	39	60.9		
Total		64	100.0		

11e.Staff at school prior to students starting college

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	43	67.2	100.0	100.0
Missing	999	21	32.8		
Total		64	100.0		

11f.Students own responsibility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	37	57.8	100.0	100.0
Missing	999	27	42.2		
Total		64	100.0		

11g.Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	4	6.3	100.0	100.0
Missing	999	60	93.8		
Total		64	100.0		

12a.Preperation for lessons/lectures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	51	79.7	100.0	100.0
Missing	999	13	20.3		
Total		64	100.0		

12b.Researching/gathering information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	61	95.3	100.0	100.0
Missing	999	3	4.7		
Total		64	100.0		

12c.Communicating with sudents and other lecturers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	49	76.6	100.0	100.0
Missing	999	15	23.4		
Total		64	100.0		

12d.Publishing and dissemination of research

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	9	14.1	100.0	100.0
Missing	999	55	85.9		
Total		64	100.0		

12e.Leisure/non academic interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	49	76.6	100.0	100.0
Missing	999	15	23.4		
Total		64	100.0		

12f.Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	1	1.6	50.0	50.0
	No	1	1.6	50.0	100.0
	Total	2	3.1	100.0	
Missing	999	62	96.9		
Total		64	100.0		

13.Do you use blackboard or a similar vle?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	32	50.0	51.6	51.6
	no	30	46.9	48.4	100.0
	Total	62	96.9	100.0	
Missing	999	2	3.1		
Total		64	100.0		

14a.Please give an example of a particluar EIS service that you use regularly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	comment	46	71.9	100.0	100.0
Missing	999	18	28.1		
Total		64	100.0		

14b.What do you like about using it?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	comment	44	68.8	100.0	100.0
Missing	999	20	31.3		
Total		64	100.0		

14c.What do you dislike about using it?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	comment	27	42.2	100.0	100.0
Missing	999	37	57.8		
Total		64	100.0		

15a.I am confident of using EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	22	34.4	34.4	34.4
	Sometimes	39	60.9	60.9	95.3
	Never	3	4.7	4.7	100.0
	Total	64	100.0	100.0	

15b.In courses which i teach the use of EIS is required in some assessed work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	6	9.4	10.0	10.0
	Sometimes	30	46.9	50.0	60.0
	Never	24	37.5	40.0	100.0
	Total	60	93.8	100.0	
Missing	999	4	6.3		
Total		64	100.0		

15c.With my students i refer to, and encourage the use of, certain EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	22	34.4	36.1	36.1
	Sometimes	36	56.3	59.0	95.1
	Never	3	4.7	4.9	100.0
	Total	61	95.3	100.0	
Missing	999	3	4.7		
Total		64	100.0		

15d.Iraise awareness of how to evaluate the content of EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	15	23.4	24.6	24.6
	Sometimes	33	51.6	54.1	78.7
	Never	13	20.3	21.3	100.0
	Total	61	95.3	100.0	
Missing	999	3	4.7		
Total		64	100.0		

15e.I find it easy to obtain useful information using EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	19	29.7	30.2	30.2
	Sometimes	42	65.6	66.7	96.8
	Never	2	3.1	3.2	100.0
	Total	63	98.4	100.0	
Missing	999	1	1.6		
Total		64	100.0		

15f.I find it easy to obtain reliable and accurate information using EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	10	15.6	15.9	15.9
	Sometimes	50	78.1	79.4	95.2
	Never	3	4.7	4.8	100.0
	Total	63	98.4	100.0	
Missing	999	1	1.6		
Total		64	100.0		

15g.I use EIS more than printed sources (i.e books)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	5	7.8	7.8	7.8
	Sometimes	30	46.9	46.9	54.7
	Never	29	45.3	45.3	100.0
	Total	64	100.0	100.0	

15h.I find it easier to access useful information using EIS instead of printed sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	6	9.4	9.4	9.4
	Sometimes	45	70.3	70.3	79.7
	Never	13	20.3	20.3	100.0
	Total	64	100.0	100.0	

15i.I find it quicker to access usueful information using EIS instead of printed sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	11	17.2	17.5	17.5
	Sometimes	42	65.6	66.7	84.1
	Never	10	15.6	15.9	100.0
	Total	63	98.4	100.0	
Missing	999	1	1.6		
Total		64	100.0		

15j.Library staff are knowledgeable about the EIS they provide

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	37	57.8	64.9	64.9
	Sometimes	19	29.7	33.3	98.2
	Never	1	1.6	1.8	100.0
	Total	57	89.1	100.0	
Missing	999	7	10.9		
Total		64	100.0		

15k.My work has improved as a result of EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	19	29.7	30.2	30.2
	Sometimes	40	62.5	63.5	93.7
	Never	4	6.3	6.3	100.0
	Total	63	98.4	100.0	
Missing	999	1	1.6		
Total		64	100.0		

15l.I enjoy a good working realtionship with library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	51	79.7	82.3	82.3
	Sometimes	11	17.2	17.7	100.0
	Total	62	96.9	100.0	
Missing	999	2	3.1		
Total		64	100.0		

15m.Students can readily access a computer to use EIS in the college library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	35	54.7	56.5	56.5
	Sometimes	27	42.2	43.5	100.0
	Total	62	96.9	100.0	
Missing	999	1	1.6		
	System	1	1.6		
	Total	2	3.1		
Total		64	100.0		

15n.Students can readily access a computer to use EIS in the college

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	32	50.0	50.8	50.8
	Sometimes	29	45.3	46.0	96.8
	Never	2	3.1	3.2	100.0
	Total	63	98.4	100.0	
Missing	999	1	1.6		
Total		64	100.0		

Frequency tables for 650 Cycle 5 FE students

Frequency Table

College

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	THE NAMES OF THE PARTICIPANT INSTITUTIONS ARE BEING COVERED TO PROTECT ANONYMITY	25	3.8	3.8	3.8
		158	24.3	24.3	28.2
		26	4.0	4.0	32.2
		9	1.4	1.4	33.5
		58	8.9	8.9	42.5
		48	7.4	7.4	49.8
		73	11.2	11.2	61.1
		57	8.8	8.8	69.8
		40	6.2	6.2	76.0
		23	3.5	3.5	79.5
		41	6.3	6.3	85.8
		92	14.2	14.2	100.0
	Total	650	100.0	100.0	

Subject

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	F'Deg Early Years	139	21.4	21.4	21.4
	MAp Catering/Hospitality	22	3.4	3.4	24.8
	English Lit A level	225	34.6	34.6	59.4
	Business Studies A level	65	10.0	10.0	69.4
	Biology A level	199	30.6	30.6	100.0
	Total	650	100.0	100.0	

1: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-19	482	74.2	74.3	74.3
	20-29	65	10.0	10.0	84.3
	30-39	46	7.1	7.1	91.4
	40-49	49	7.5	7.6	98.9
	50-59	6	.9	.9	99.8
	60+	1	.2	.2	100.0
	Total	649	99.8	100.0	
Missing	999	1	.2		
Total		650	100.0		

2: Year of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1st	340	52.3	53.6	53.6
	2nd	257	39.5	40.5	94.2
	3rd	36	5.5	5.7	99.8
	4th	1	.2	.2	100.0
	Total	634	97.5	100.0	
Missing	999	16	2.5		
Total		650	100.0		

3: Attendance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full time	486	74.8	77.1	77.1
	Part time	144	22.2	22.9	100.0
	Total	630	96.9	100.0	
Missing	999	20	3.1		
Total		650	100.0		

4: Do you use a computer to find electronic information for studying

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	610	93.8	96.5	96.5
	No	22	3.4	3.5	100.0
	Total	632	97.2	100.0	
Missing	999	18	2.8		
Total		650	100.0		

5a: College library computer areas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly (every week)	323	49.7	56.7	56.7
	Monthly (every month)	149	22.9	26.1	82.8
	Never	98	15.1	17.2	100.0
	Total	570	87.7	100.0	
Missing	999	80	12.3		
Total		650	100.0		

5b: Other college computer areas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly (every week)	174	26.8	35.7	35.7
	Monthly (every month)	108	16.6	22.2	57.9
	Never	205	31.5	42.1	100.0
	Total	487	74.9	100.0	
Missing	999	163	25.1		
Total		650	100.0		

5c: University library computer areas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly (every week)	13	2.0	3.0	3.0
	Monthly (every month)	20	3.1	4.6	7.5
	Never	405	62.3	92.5	100.0
	Total	438	67.4	100.0	
Missing	999	212	32.6		
Total		650	100.0		

5d: At work/placement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly (every week)	102	15.7	21.8	21.8
	Monthly (every month)	38	5.8	8.1	30.0
	Never	327	50.3	70.0	100.0
	Total	467	71.8	100.0	
Missing	999	183	28.2		
Total		650	100.0		

5e: At home

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly (every week)	511	78.6	83.9	83.9
	Monthly (every month)	68	10.5	11.2	95.1
	Never	30	4.6	4.9	100.0
	Total	609	93.7	100.0	
Missing	999	41	6.3		
Total		650	100.0		

5f: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	weekly	13	2.0	18.1	18.1
	monthly	6	.9	8.3	26.4
	never	52	8.0	72.2	98.6
	comment made	1	.2	1.4	100.0
	Total	72	11.1	100.0	
Missing	999	576	88.6		
	System	2	.3		
	Total	578	88.9		
Total		650	100.0		

6a: Books from the library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	565	86.9	90.5	90.5
	hard	59	9.1	9.5	100.0
	Total	624	96.0	100.0	
Missing	999	25	3.8		
	System	1	.2		
	Total	26	4.0		
Total		650	100.0		

6b: Printed Journals from the library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	290	44.6	57.3	57.3
	Hard	216	33.2	42.7	100.0
	Total	506	77.8	100.0	
Missing	999	144	22.2		
Total		650	100.0		

6c: Handouts from teaching staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	623	95.8	97.6	97.6
	Hard	15	2.3	2.4	100.0
	Total	638	98.2	100.0	
Missing	999	9	1.4		
	System	3	.5		
	Total	12	1.8		
Total		650	100.0		

6d: Electronic journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	237	36.5	46.9	46.9
	Hard	268	41.2	53.1	100.0
	Total	505	77.7	100.0	
Missing	999	145	22.3		
Total		650	100.0		

6e: CD-ROMS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	442	68.0	80.1	80.1
	Hard	110	16.9	19.9	100.0
	Total	552	84.9	100.0	
Missing	999	96	14.8		
	System	2	.3		
	Total	98	15.1		
Total		650	100.0		

6f: Databses of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	197	30.3	41.6	41.6
	Hard	277	42.6	58.4	100.0
	Total	474	72.9	100.0	
Missing	999	175	26.9		
	System	1	.2		
	Total	176	27.1		
Total		650	100.0		

6g: Internet search engines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	614	94.5	97.0	97.0
	Hard	19	2.9	3.0	100.0
	Total	633	97.4	100.0	
Missing	999	15	2.3		
	System	2	.3		
	Total	17	2.6		
Total		650	100.0		

6h: College intranet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	449	69.1	80.9	80.9
	Hard	106	16.3	19.1	100.0
	Total	555	85.4	100.0	
Missing	999	93	14.3		
	System	2	.3		
	Total	95	14.6		
Total		650	100.0		

6i: Own books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	580	89.2	95.4	95.4
	Hard	28	4.3	4.6	100.0
	Total	608	93.5	100.0	
Missing	999	41	6.3		
	System	1	.2		
	Total	42	6.5		
Total		650	100.0		

6j: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	12	1.8	37.5	37.5
	Hard	20	3.1	62.5	100.0
	Total	32	4.9	100.0	
Missing	999	618	95.1		
Total		650	100.0		

7a: Books from the library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	280	43.1	43.8	43.8
	Monthly	289	44.5	45.2	88.9
	Haven't used	71	10.9	11.1	100.0
	Total	640	98.5	100.0	
Missing	999	10	1.5		
Total		650	100.0		

7b: Printed journals from the library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	46	7.1	7.6	7.6
	monthly	131	20.2	21.7	29.3
	haven't used	427	65.7	70.7	100.0
	Total	604	92.9	100.0	
Missing	999	45	6.9		
	System	1	.2		
	Total	46	7.1		
Total		650	100.0		

7c: Handouts from the teaching staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	563	86.6	88.4	88.4
	Monthly	62	9.5	9.7	98.1
	Haven't used	12	1.8	1.9	100.0
	Total	637	98.0	100.0	
Missing	999	12	1.8		
	System	1	.2		
	Total	13	2.0		
Total		650	100.0		

7d: Electronic journals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	66	10.2	11.1	11.1
	Monthly	107	16.5	18.0	29.1
	haven't used	422	64.9	70.9	100.0
	Total	595	91.5	100.0	
Missing	999	55	8.5		
Total		650	100.0		

7e: CD-ROMS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	weekly	100	15.4	16.5	16.5
	monthly	220	33.8	36.3	52.8
	haven't used	286	44.0	47.2	100.0
	Total	606	93.2	100.0	
Missing	999	43	6.6		
	System	1	.2		
	Total	44	6.8		
Total		650	100.0		

7f: Databases of journal articles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	weekly	43	6.6	7.3	7.3
	monthly	103	15.8	17.4	24.7
	haven't used	445	68.5	75.3	100.0
	Total	591	90.9	100.0	
Missing	999	58	8.9		
	System	1	.2		
	Total	59	9.1		
Total		650	100.0		

7g: Internet search engines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	weekly	521	80.2	82.0	82.0
	monthy	101	15.5	15.9	98.0
	haven't used	13	2.0	2.0	100.0
	Total	635	97.7	100.0	
Missing	999	15	2.3		
Total		650	100.0		

7h: College intranet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	266	40.9	43.9	43.9
	monthly	169	26.0	27.9	71.8
	Haven't used	171	26.3	28.2	100.0
	Total	606	93.2	100.0	
Missing	999	44	6.8		
Total		650	100.0		

7l: Own books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	weekly	426	65.5	68.7	68.7
	Monthly	141	21.7	22.7	91.5
	Haven't used	53	8.2	8.5	100.0
	Total	620	95.4	100.0	
Missing	999	30	4.6		
Total		650	100.0		

7j: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	WEEKLY	12	1.8	24.5	24.5
	MONTHLY	4	.6	8.2	32.7
	HAVEN'T USED	33	5.1	67.3	100.0
	Total	49	7.5	100.0	
Missing	999	597	91.8		
	System	4	.6		
	Total	601	92.5		
Total		650	100.0		

8a: Recommendation from other student

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	468	72.0	100.0	100.0
Missing	999	182	28.0		
Total		650	100.0		

8b: Recommendation from teaching staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	532	81.8	100.0	100.0
Missing	999	117	18.0		
	System	1	.2		
	Total	118	18.2		
Total		650	100.0		

8c: Recomendation from college library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	87	13.4	100.0	100.0
Missing	999	563	86.6		
Total		650	100.0		

8d: Recomendation from university library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	21	3.2	100.0	100.0
Missing	999	629	96.8		
Total		650	100.0		

8e: Recomendation from employer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	66	10.2	100.0	100.0
Missing	999	584	89.8		
Total		650	100.0		

8f: Library leaflets/posters

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	137	21.1	100.0	100.0
Missing	999	513	78.9		
Total		650	100.0		

8g: Finding out myself

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	489	75.2	100.0	100.0
Missing	999	161	24.8		
Total		650	100.0		

8h: Training session from teaching staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	151	23.2	100.0	100.0
Missing	999	499	76.8		
Total		650	100.0		

8i: Training session from college library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	68	10.5	100.0	100.0
Missing	999	582	89.5		
Total		650	100.0		

8j: Training session from university library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	3.1	100.0	100.0
Missing	999	630	96.9		
Total		650	100.0		

8k: Training session employer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	33	5.1	100.0	100.0
Missing	999	617	94.9		
Total		650	100.0		

8l: Being shown by another student

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	318	48.9	100.0	100.0
Missing	999	332	51.1		
Total		650	100.0		

8m: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	9	1.4	100.0	100.0
Missing	999	641	98.6		
Total		650	100.0		

8n: Don't use electronic information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	22	3.4	100.0	100.0
Missing	999	628	96.6		
Total		650	100.0		

9a: What's your favourite ELECTRONIC information source?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	531	81.7	100.0	100.0
Missing	999	119	18.3		
Total		650	100.0		

9b: What do you like about using it?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	517	79.5	100.0	100.0
Missing	999	133	20.5		
Total		650	100.0		

9c: What do you dislike about using it?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	427	65.7	99.5	99.5
	no	2	.3	.5	100.0
	Total	429	66.0	100.0	
Missing	999	221	34.0		
Total		650	100.0		

10a: Teaching staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	366	56.3	100.0	100.0
Missing	999	283	43.5		
	System	1	.2		
	Total	284	43.7		
Total		650	100.0		

10b: Library staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	187	28.8	100.0	100.0
Missing	999	463	71.2		
Total		650	100.0		

10c: Students own responisibility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	438	67.4	100.0	100.0
Missing	999	212	32.6		
Total		650	100.0		

10d: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	22	3.4	100.0	100.0
Missing	999	628	96.6		
Total		650	100.0		

11: Please list any courses you are studying at the college now

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	301	46.3	97.1	97.1
	No	8	1.2	2.6	99.7
	3	1	.2	.3	100.0
	Total	310	47.7	100.0	
Missing	999	339	52.2		
	System	1	.2		
	Total	340	52.3		
Total		650	100.0		

12a: Using EIS i find useful/interesting information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very much so	218	33.5	38.4	38.4
	fairly	235	36.2	41.4	79.9
	sometimes	100	15.4	17.6	97.5
	hardly	6	.9	1.1	98.6
	not at all	8	1.2	1.4	100.0
	Total	567	87.2	100.0	
Missing	999	82	12.6		
	System	1	.2		
	Total	83	12.8		
Total		650	100.0		

12b: I am confident using EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very much so	210	32.3	37.2	37.2
	Fairly	261	40.2	46.2	83.4
	Sometimes	79	12.2	14.0	97.3
	Hardly	7	1.1	1.2	98.6
	Not at all	8	1.2	1.4	100.0
	Total	565	86.9	100.0	
Missing	999	85	13.1		
Total		650	100.0		

12c: EIS are time saving

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very much so	175	26.9	31.0	31.0
	Fairly	207	31.8	36.7	67.7
	Sometimes	153	23.5	27.1	94.9
	Hardly	22	3.4	3.9	98.8
	Not at all	7	1.1	1.2	100.0
	Total	564	86.8	100.0	
Missing	999	86	13.2		
Total		650	100.0		

12d: There are enough access points to EIS available to me

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very much so	172	26.5	31.0	31.0
	Fairly	229	35.2	41.3	72.4
	Sometimes	123	18.9	22.2	94.6
	Hardly	18	2.8	3.2	97.8
	Not at all	12	1.8	2.2	100.0
	Total	554	85.2	100.0	
Missing	999	92	14.2		
	System	4	.6		
	Total	96	14.8		
Total		650	100.0		

12e: My work would suffer without access to EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very much so	164	25.2	29.2	29.2
	Fairly	149	22.9	26.6	55.8
	sometimes	153	23.5	27.3	83.1
	hardly	73	11.2	13.0	96.1
	not at all	22	3.4	3.9	100.0
	Total	561	86.3	100.0	
Missing	999	88	13.5		
	System	1	.2		
	Total	89	13.7		
Total		650	100.0		

12f: I use EIS more than print sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very much so	124	19.1	22.3	22.3
	fairly	141	21.7	25.4	47.7
	sometimes	192	29.5	34.6	82.3
	hardly	70	10.8	12.6	95.0
	Not at all	28	4.3	5.0	100.0
	Total	555	85.4	100.0	
Missing	999	91	14.0		
	System	4	.6		
	Total	95	14.6		
Total		650	100.0		

13a: In my course the use of EIS is required in some assessed work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	448	68.9	79.2	79.2
	No	118	18.2	20.8	100.0
	Total	566	87.1	100.0	
Missing	999	82	12.6		
	System	2	.3		
	Total	84	12.9		
Total		650	100.0		

13b: My lecturers/tutors have taught me how to evaluate the content of EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	214	32.9	38.5	38.5
	No	342	52.6	61.5	100.0
	Total	556	85.5	100.0	
Missing	999	93	14.3		
	System	1	.2		
	Total	94	14.5		
Total		650	100.0		

13c: I find it easier to access useful information using EIS rather than printed sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	350	53.8	63.1	63.1
	No	205	31.5	36.9	100.0
	Total	555	85.4	100.0	
Missing	999	91	14.0		
	System	4	.6		
	Total	95	14.6		
Total		650	100.0		

13d: I find it quicker to access useful information using EIS rather than printed sources

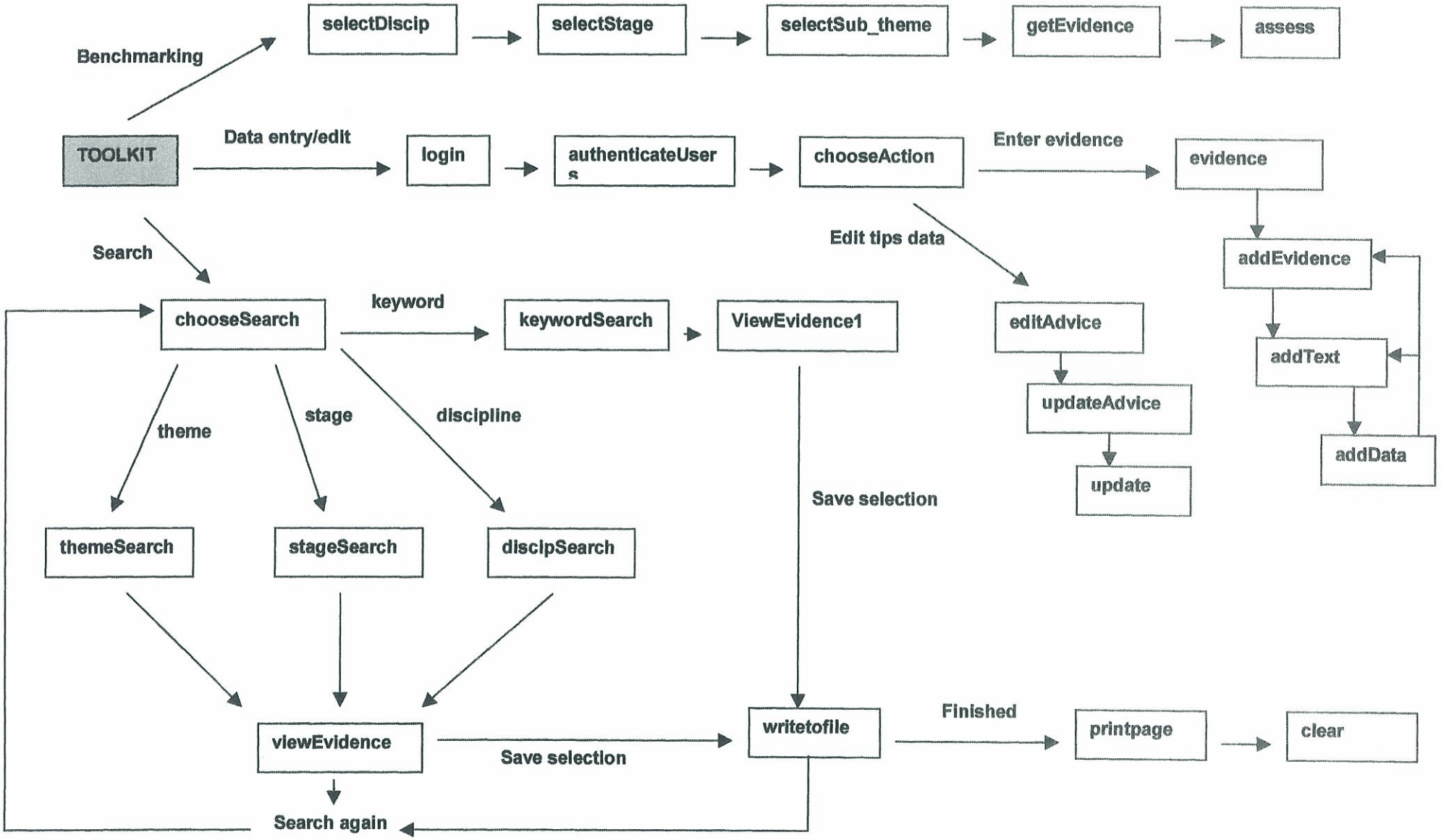
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	413	63.5	73.9	73.9
	No	146	22.5	26.1	100.0
	Total	559	86.0	100.0	
Missing	999	87	13.4		
	System	4	.6		
	Total	91	14.0		
Total		650	100.0		

13e: There are enough computers available at the university for me to use EIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	403	62.0	76.9	76.9
	No	121	18.6	23.1	100.0
	Total	524	80.6	100.0	
Missing	999	122	18.8		
	System	4	.6		
	Total	126	19.4		
Total		650	100.0		

APPENDIX D

FLOW DIAGRAM FOR JUBILEE TOOLKIT - See page 36 of Cycle 5 Report



APPENDIX E

Impact Study 'B'

Impact Project Report

Anne Middleton

July 2004

Northumbria University

Learning Resources
Information Management Resource Institute

northumbria
UNIVERSITY
Information Management
Research Institute

Contents

Executive summary

This Impact project was undertaken as a joint activity between Northumbria University Learning Resources and IMRI (Information Management Research Institute) under the umbrellas of the JUBILEE (JISC User Behaviour in Information seeking: Longitudinal Evaluation of Electronic information services) project and the joint LIRG (Library and Information Research Group) / SCONUL (Society of College, National and University Libraries) Impact Project.

The project employed questionnaires, focus groups and bibliography analysis to investigate user behaviour of two groups of students. The students were undergraduate business students on their first and second years at Northumbria University.

The students' use of information resources was strongly influenced by their academic tutors and was assessment driven. Students were reluctant to use scholarly resources such as journals unless it was a requirement of their assessment. The range of assessments that students undertake, including group and problem-based learning, means that there is not always a requirement for students to use scholarly information resources for their assessments.

The second year students used a wider range and quantity of information resources than the first year students and considered themselves to have better information skills than the first years. This was probably due to their wider experience, but also to some of the face-to-face user education that they had had from library staff.

Students were most responsive to library user education that was embedded in their curriculum, tailored to specific assignments and delivered at their point of need (in this case in their 2nd year of study). Thus, in order to influence students use of resources and their information literacy it is necessary to have close collaboration between academic and library staff. Modules should be identified, at all levels of a course programme, where the use of scholarly information resources is made to be an assessment criterion. These modules can then have information skills embedded within them and delivered by library staff.

The bibliography analysis methodology piloted in this project could be applied more widely to understand the factors influencing the use of resources for diverse student groups and varied academic disciplines.

1.0 Introduction

This Impact project was undertaken as a joint activity between Northumbria University Learning Resources and IMRI (Information Management Research Institute). Learning Resources (LR) staff engaged in the first round of the joint LIRG (Library and Information Research Group) / SCONUL (Society of College, National and University Libraries) Impact Project, along with another 10 UK higher education (HE) libraries. The aims of the national project are to help HE libraries to identify measures that can be employed in order to assess library 'impact'.

The LR project team chose to examine the theme of 'Learner Support' in collaboration with the JUBILEE (JISC User Behaviour in Information seeking: Longitudinal Evaluation of EIS) team at IMRI. It was recognised that some of the tools employed by the JUBILEE project could be used to attempt to measure impact of learner support. In addition to using and adapting some of the existing JUBILEE methodologies they were extended to include bibliography analysis. This was an endeavour to further understand students' information resource use by examining their assignment outputs.

1.1 Project coverage

Two groups of students were selected for participation in the study through liaison with academic staff in Newcastle Business School (NBS). The students were enrolled on two different marketing modules; a first year module, M1B and a second year module, M2B.

These students were selected, as there was buy-in to the project by the academic teaching staff for these modules. It was also believed that these students represented 'traditional' students in that they were mostly UK based school leavers. This allowed a base line to be established to which more diverse groups of students could be potentially compared in the future.

1.2 Background to available learner support

Students at Northumbria have a range of support available to them from LR. In addition to traditional enquiry desks for library enquires and IT Support, students have support available by telephone and through a web-based e-mail service, Electronic Access to Enquiry Services (EARS). There are also supporting webpages from the Study Skills Centre, IT Support and the Library. These offer a range of support from help sheets through to tutorials and self-paced training packages. The Library's webpages include an information literacy package "Library & Information Skills" which is available to students to work through either on the web or with questions on the Blackboard virtual learning environment (VLE).

This study was carried out during the first year that NBS students had had a compulsory module, M1A to develop their study skills in their first semester at the University. LR staff had an input with library staff delivering an information skills lecture and Students Services Study Skills Centre staff delivering a further 2 lectures. In addition to this, the first year students also had an opportunity to attend inductions from library and IT Support staff; and IT Support also offered 'drop-in' sessions.

2.0 Methodologies

The project used some JUBILEE methodology in the form of questionnaires and focus groups. It also used research diaries and developed a method of bibliography analysis for the student assignments.

2.1 Questionnaire

The construction of the questionnaire was based on a questionnaire used as part of the JUBILEE project, see Appendix I.

The questionnaire was first issued in lectures during teaching week 2 (after induction but before the first years had any user education skills from library staff in study skills module M1A). The questionnaire was repeated and issued to the same groups of students in Teaching week 11 (the second last week before the Christmas vacations). This second questionnaire was issued after the M1A module but before both groups of student assignments were due in after the Christmas vacation.

The data from the returned questionnaires was entered into 'snap' survey software for analysis.

2.2 Research Diary

A research diary (see Appendix II) was issued to both groups of students in an attempt to establish their information seeking and resource use behaviour as they undertook their marketing assignments. The diaries were distributed to students during their marketing lectures and they were instructed to hand in the completed diary with their assignment.

2.3 Focus Groups

A focus group was conducted with each group of students after they had completed their assignments for M1B and M2B.. The outline question schedule is in Appendix III. The sessions were recorded and the tapes subsequently transcribed.

2.4 Bibliography analysis

It was originally intended to analyse only the bibliographies of the assignments for the students on the 2 modules, M1B and M2B. It was not possible however to obtain the assignments for module M1B. Although the assignments for M2B were analysed they were group reports and had not been written by individual students. It was therefore decided to analyse some additional assignments. A first year assignment for international business, M1 and a 2nd year marketing assignment M2A were selected. It did prove difficult to identify assignments for bibliography analysis as many assignments were based on problem-based learning (PBL) and required a range of student output such as presentations, and accounts of scenarios rather than the traditional essays or reports.

The references in the student bibliographies were assigned to different categories of resource according to the criteria in Table 1 below. These categories were assigned as either 'scholarly' or 'non-scholarly'.

Table 1
Reference categories

Books	Scholarly	Books – library holding were checked on the library catalogue
Scholarly journals	Scholarly	This included both print and electronic peer-reviewed journals
Non-Scholarly journals	Non-scholarly	These included weeklies and professional trade journals and magazines, both print and electronic
Scholarly websites	Scholarly	Official, professional and educational resources. Including those with a url domain names - .edu, .gov, .europa. .imf, .who

Non-scholarly websites	Non-scholarly	All other domain names, including news sources. Where several different pages on the same website were referenced separately they were counted as one reference.
Other scholarly resources	Scholarly	This included conference papers and official reports
Other non-scholarly	Non-scholarly	This included market research reports, newspapers, publicity leaflets, lecture notes, and Blackboard materials
Unidentifiable	-	References with insufficient information to determine any other category

A total number of references and the mark was also recorded for each assignment.

A scholarly index (S.I.) was calculated for each assignment to show what proportion of a student's reference list was 'scholarly' as follows:

$$S.I. = \frac{\text{Number of references in scholarly categories}}{\text{(Total number of references – Number of unidentifiable references)}}$$

3.0 Research findings

3.1 Questionnaire

There was a good response rate for the first round of the questionnaire although this fell in the second round, see Table 2 below. Most of the students attending the lectures returned a questionnaire, however there was quite a low attendance at the lectures for the second questionnaire (in part due to factors relating to academic staff absences).

Table 2
Impact questionnaire returns

Module	Year of study	No. students	1st round questionnaire	% response	2nd round questionnaire	% response
M1B	1st	121	103	85	52	43
M2B	2nd	33	22	66	11	33

Some analysis has looked for differences for some of the main questions between the two year groups and between the 2 surveys. It is important however to be aware of the sample size, which is particularly small for the 2nd years' 2nd questionnaire.

3.1.1 Age and gender

All the respondents to the survey in both year groups were in the two youngest age categories (see Figures a and b.)

The majority of respondents were female: in round 1 of the questionnaire totalling 60% of first years and 75% of second years.

Figure a
Age of first year respondents, round 1 of questionnaire

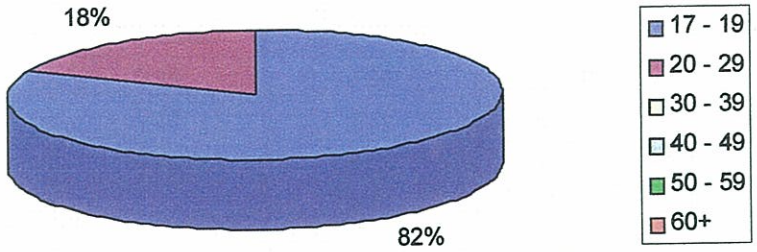
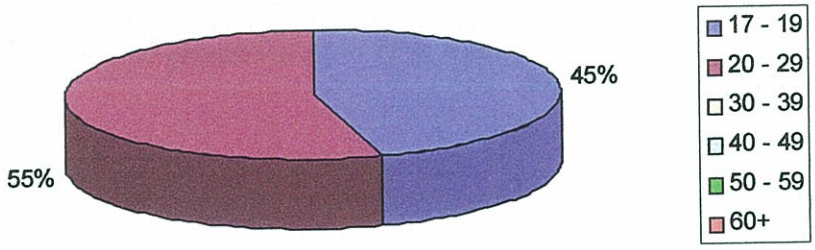


Figure b
Age of second year respondents, round 1 of questionnaire



3.1.2. Location for accessing electronic information

For both groups of students home access was important. In round one of the questionnaire 52% of 1st year and 64% of 2nd year respondents claimed that they would either 'frequently' or 'sometimes' search for information electronically from a home computer.

The university computers were also important for both groups of students. The first year students made more use of the library computers than other university computers, (available in their departments and in open access areas), with 67% using the library computers either 'frequently' or 'sometimes' compared to 53% for other university computers. The 2nd year students used other university computers more than library computers (see Table 3).

Table 3
Location of computers for accessing electronic information
Round 1 of questionnaire

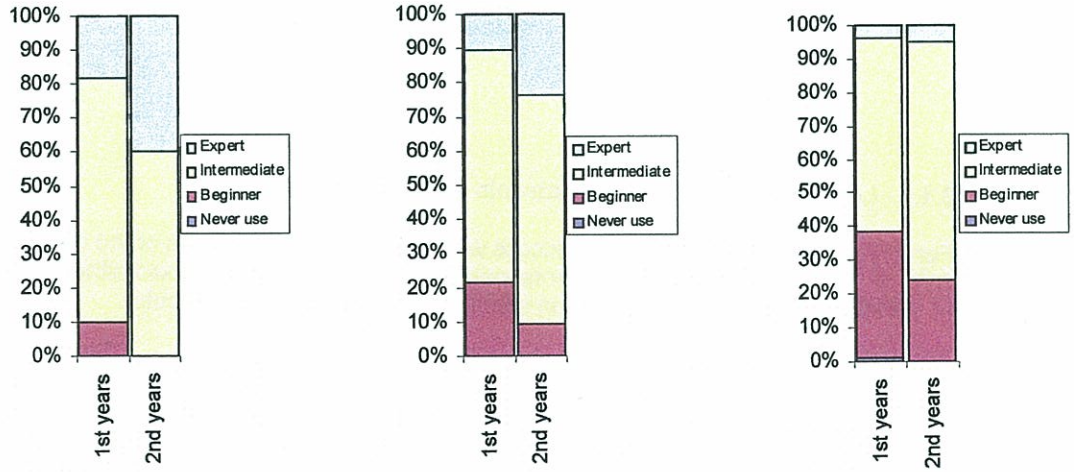
	%	Library computers	Other university computers	Home
1st years	Frequently	32.5	21.0	37.5
	Sometimes	34.5	32.0	14.5
	Combined sum	67.0	53.0	52.0
2nd years	Frequently	12.0	48.0	36.0
	Sometimes	36.0	28.0	28.0
	Combined sum	48.0	76.0	64.0

There was a low response to this question in round 2 of the questionnaire so no comparisons are made between rounds.

3.1.3. Perception of general information skills

The 2nd year students rated all their general information skills higher than did the 1st year students (see Figure c). The most marked difference between the years was for skill ratings in 'using basic computer packages' with 41% of 2nd years considering themselves to be 'expert' compared to 18% of 1st years.

Figure c
Students' perceived general information skills, round 1 of questionnaire



Using basic computer packages | **Searching and retrieving electronic information** | **Evaluating quality of electronic information**

There were some changes in the 1st year students' perceptions of their general information skills between round 1 and round 2 of the questionnaire (see Table 4). There was no difference in their perceived skills with basic computer packages but there was a small

improvement in their rating for searching / retrieving electronic information and evaluating the quality of electronic information.

Table 4
Percentage change in 1st years respondents' categorisation of their general information skills between questionnaire rounds 1 and 2

	Beginner	Intermediate	Expert
Basic computer skills	-2.2	-0.1	+2.4
Searching/retrieving electronic information	-8.2	+9.4	-1.3
Evaluating quality of electronic information	-5.9	+6.2	-0.2

This comparison was not carried out for the 2nd year students due to the low return rate of the second round of the questionnaire.

3.1.4 Use of information resources

By round 2 of the questionnaire it was expected that both year groups would be engaged on their assignments for modules M1B and M2B. Both groups were relying heavily on the Internet and specialist databases for their research (see Figures d and e).

79% of 1st years and 73% of 2nd years said that they were using Internet search engines frequently. Specialist databases were the most frequently used sources for the 2nd years with 91% using them 'frequently' and 9% using them 'sometimes'. 46% of 1st years were using specialist databases 'frequently' and 44% 'sometimes'. The use of Blackboard by both groups of students is also frequent for the majority of respondents (see Figures d and e).

It would appear that both year groups use their own books, although the 2nd years make more use of library books. The 2nd year students also use both printed and electronic journals more frequently than 1st years (see Figures d and e).

The majority of students make some use of library webpages. In round 1 of the questionnaire 86% of 2nd years were using them either 'frequently' or 'sometimes' and 78% of 1st years. The 1st years use continues to be high into the round 2 of the questionnaire with 70% using the library web pages either 'frequently' or 'sometimes'.

Figure d
1st years' use of information resources, round 2 of questionnaire

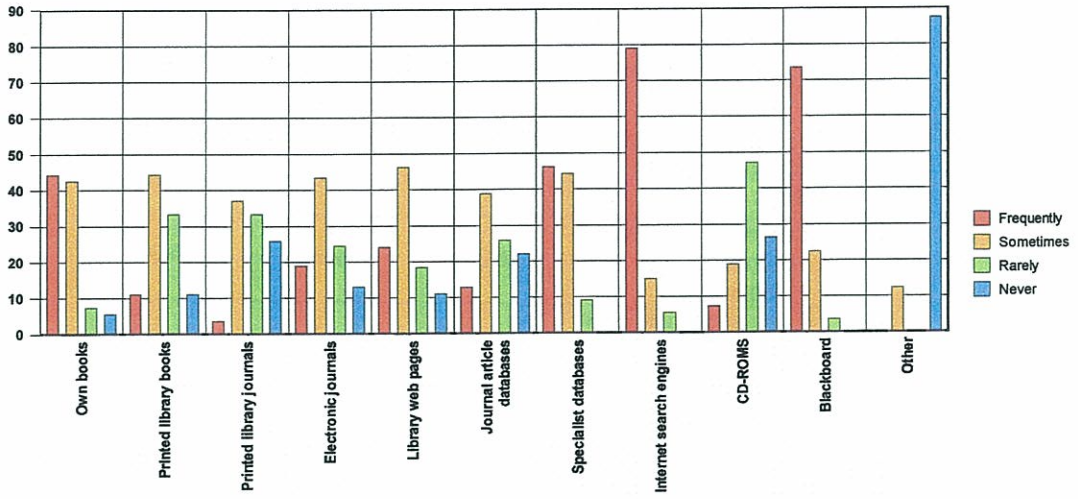
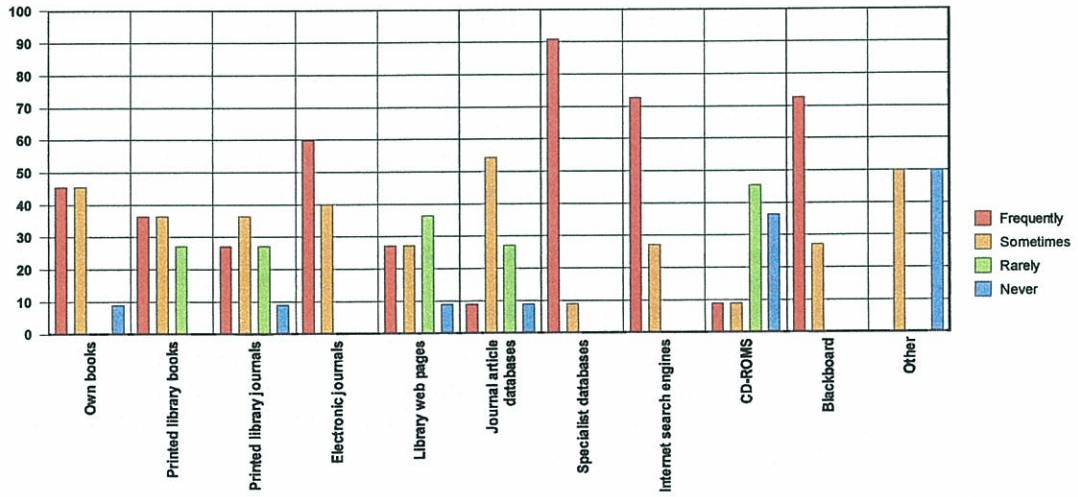
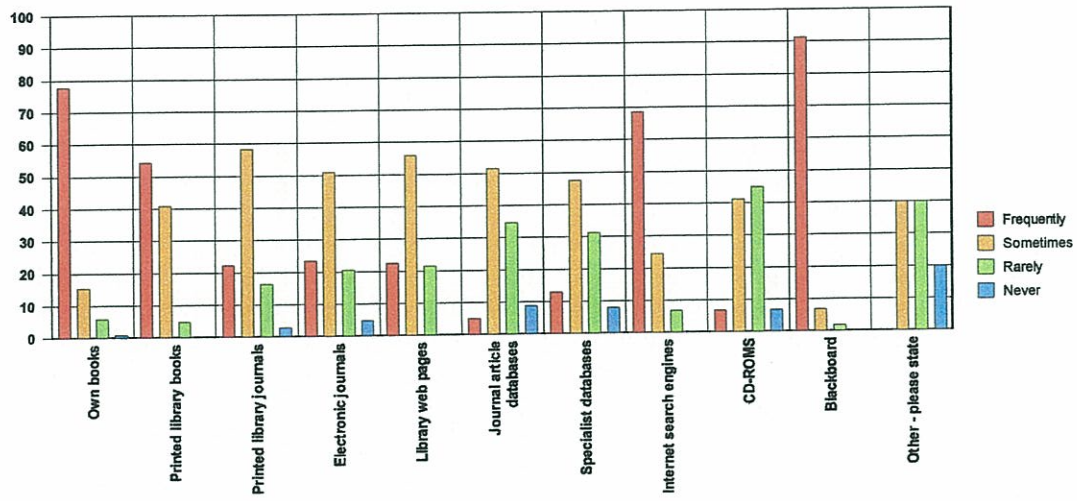


Figure e
2nd years' use of information resources, round 2 of questionnaire



Another interesting aspect of this question is the insight into what new students' expectations are of the resources that they *will* use, contrasted with the resources that they are using once they have got into their course and assignments. Figure f, overleaf, shows that the first year students at the beginning of their course are expecting to make heavy use of both their own and library books. By round 2 of the questionnaire their use of books, particularly library books has fallen and their use of specialist databases has risen (Fig. d).

Figure f
1st years, Round 1 of questionnaire



3.1.5 Perception of information resource skills

Question 6 (see Appendix I) addresses students' perceptions of their skills in using specific information resources. It might have been anticipated that the first year students increased their confidence rating from when they first started at university to near the end of their first term. This, in general, is what happened, see Figs. g and h, overleaf. For example, although most respondents had used Blackboard at the time of the first survey, 50% considered themselves to be "beginners". By the second round of the questionnaire however over 96% of respondents considered themselves to be either "intermediate" or "expert". Other differences were noticed for information resources that had not been used by many respondents at the time of the first questionnaire round. Electronic journals, Library web pages, journal article databases, and specialist databases all had fewer respondents that "hadn't used" them and therefore had more respondents considering themselves as "beginners" but also more "intermediates". This was particularly marked for Specialist databases, see Fig. i, overleaf.

Figure g

1st year students' perceived skills with information resources, round 1 of questionnaire

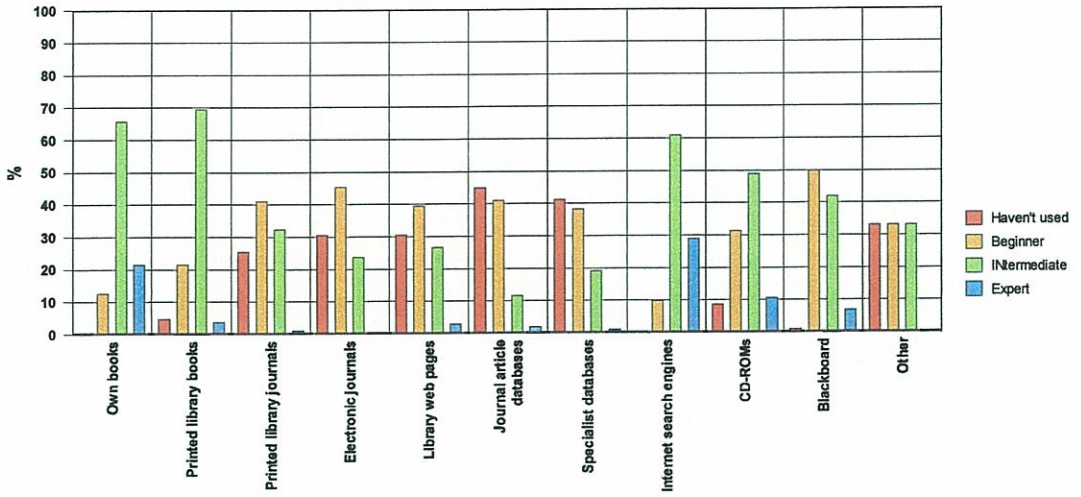


Figure h

1st year students' perceived skills with information resources, round 2 of questionnaire

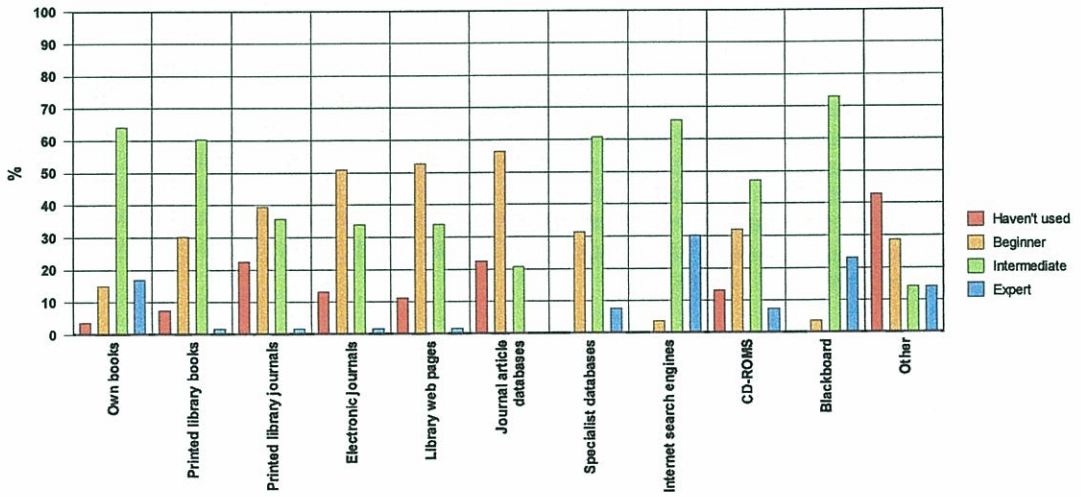
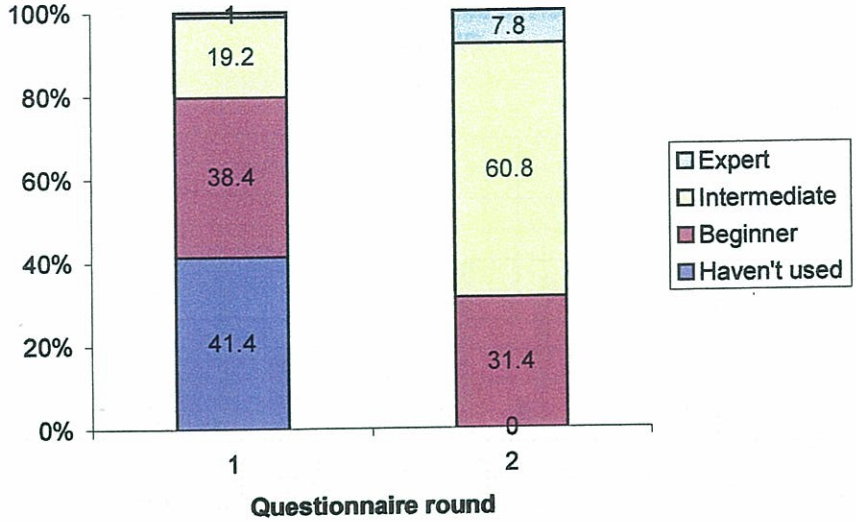


Figure i
1st years' perceived skill levels using specialist databases



The 2nd year students considered themselves to be better skilled than the 1st years. When they had had the opportunity, by round 2 the first years' students became more experienced (see Figure j). They particularly rated themselves higher at e-journals, library webpages, journal article databases, specialist databases and Blackboard. The electronic resources that the 2nd years considered themselves most 'expert' in were Blackboard, internet search engines and specialist databases (see Figure k).

Figure j
1st year and 2nd year students' perceived skill with selected information resources, (questionnaire round 2 for 1st years and round 1 for 2nd years)

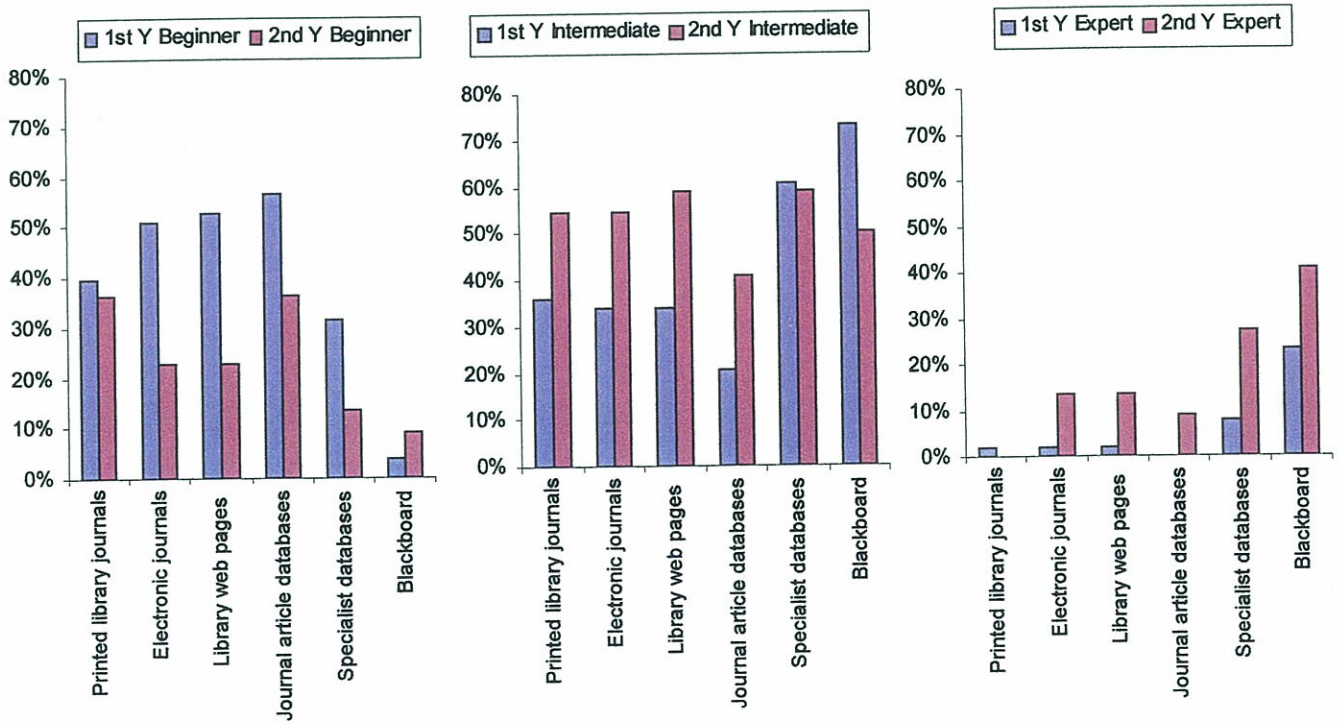
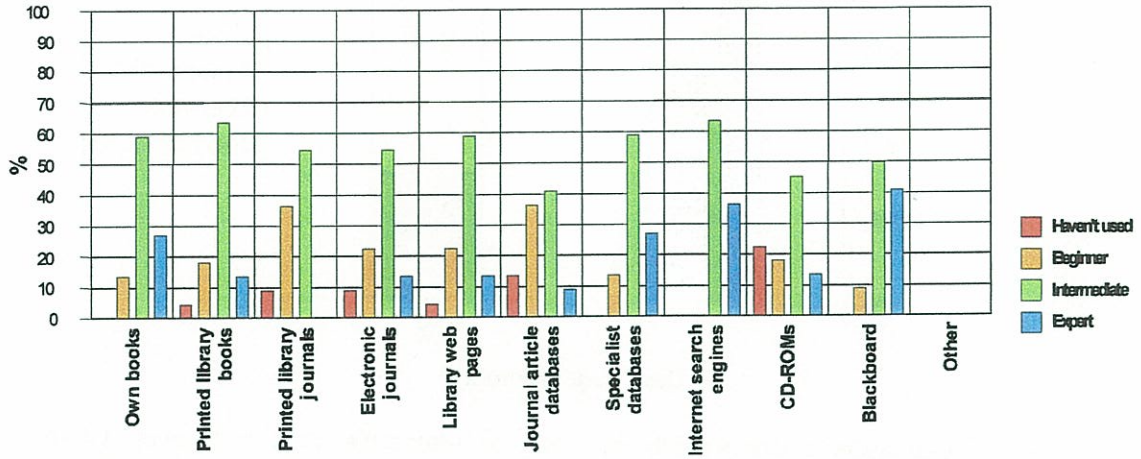


Figure k
2nd year students perceived skills with information resources, round 1 of questionnaire



3.1.6 Finding out about information resources

Question 7 (Appendix I) asked students how they learnt about information resources. Figures l and m show that for both year groups the most frequent source of information was their lecturers, followed by their peer group. The year 2 students claimed to find out about information resources from their "own research" more that the first years, although it is not clear exactly what this constitutes.

The first year students seemed to rely less on library staff for information about information resources in the second round that than they had expected to in round one: 18% of respondents said that they would 'never' learn about information resources from library staff in round 1, rising to 45% in round 2. This was in spite of having had a user education session from library staff in the intervening period.

Figure l

The sources for learning about information resources for 1st years, round 1 of questionnaire

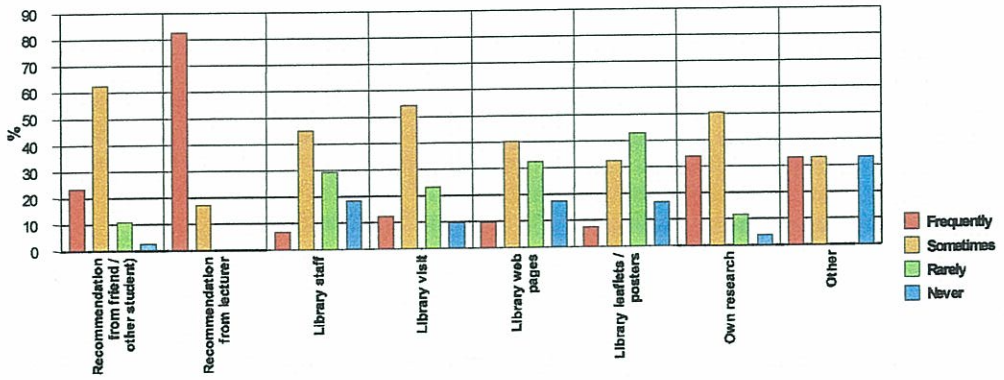
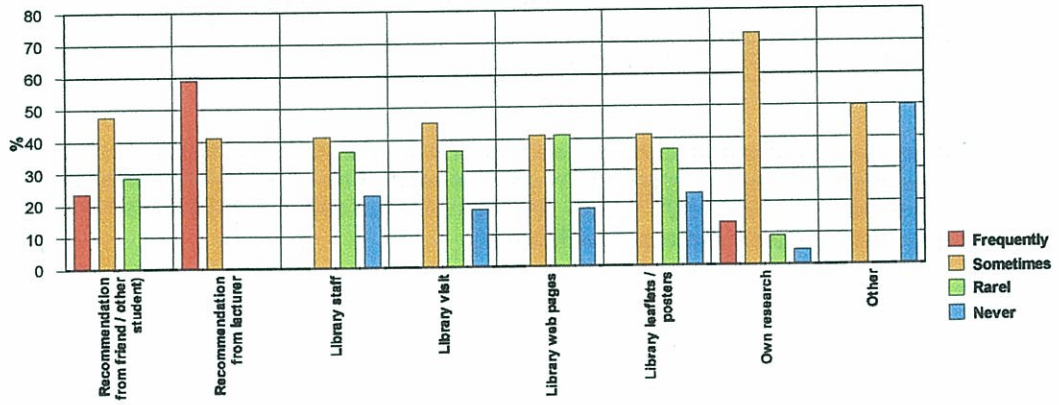


Figure m

The sources for learning about information resources for 2nd years, round 1 of questionnaire



3.1.7. Training

The aim of the last question, (question 8, see Appendix I), of the questionnaire was to determine what Learning Resources' training students had participated in. This data could then be compared with the other questionnaire data for perceived competence and use of information resources to test whether the training had an impact. It was difficult to describe in an unambiguous manner in the questionnaire format the range of training options that were available for the students. It would seem likely from the responses that students did not understand the range of options in the questionnaire. For example, over 21% of first year students in round one of the questionnaire claimed to have attended an "information skills session by library staff". These sessions had not taken place at that time so it is unclear what respondents were referring to – they were possibly confusing this with an induction session from library staff. This means that it is difficult to interpret the results from round 2 of the questionnaire when over 31% claimed to have attended an "information skills session by library staff".

A further puzzle is presented by responses as to whether they had attended a "general induction session by library staff". In round 1, 50% of first year respondents said that they had attended such a session but this had fallen in round 2 to 37%.(Tab 5) Is this an artefact of

a smaller sample for the second round of the questionnaire or had students forgotten that they had attended such as session? A third option is that they had transferred their positive response from the "general induction session by library staff" to the "information skills session by library staff".

The results for participation in "'Library & information skills' on Blackboard / web site" are more consistent with 41% of first year respondents claiming to have participated in round 1 and 37% in round 2. There is a similar pattern and participation rate for "Student essentials induction session". There is an apparent higher rate in participation in the study skills compared to IT training with over 51% of first year participants claiming to have used a "Study skills tutorial" and "Study skills on web site" by the 2nd round of the questionnaire. Use of IT support on the web was low, falling to 3.7% in round 2 (Table 5).

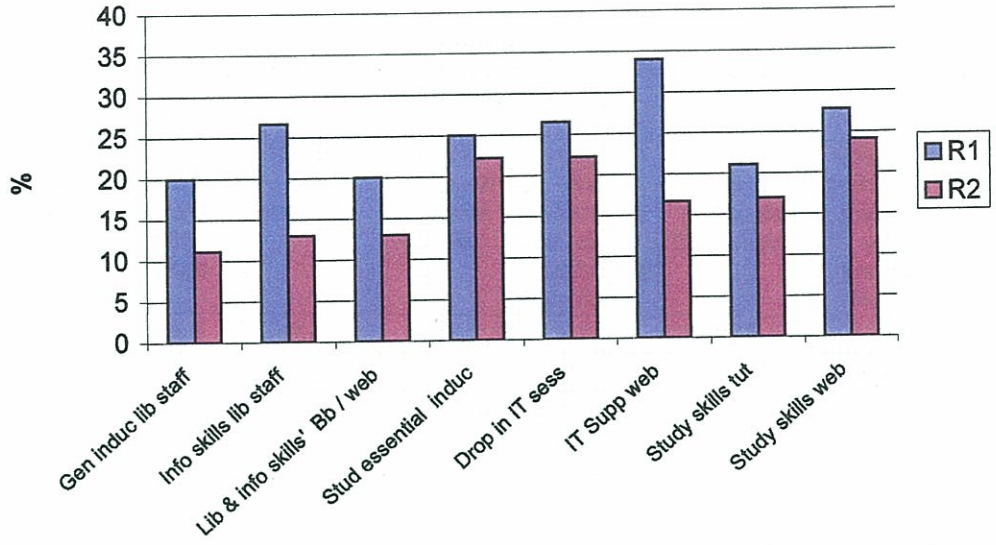
Table 5
Percentage of first year respondents participating in training in rounds 1 and 2 of questionnaire

	General induction session by library staff	Information skills session by library staff	'Library and information skills' on Blackboard / web site	Student essentials induction session	Drop in IT sessions	IT Support training on web site	Study skills tutorial	Study skills on web site
R1	50.0	21.8	41.0	42.0	17.6	13.0	41.0	18.8
R2	37.0	31.5	37.0	35.2	13.0	3.7	51.5	51.9

Between 20 – 30% of respondents did not appear to be aware of the training opportunities available to them in the first round of the questionnaire. This situation did improve for all the training opportunities by the 2nd round - although a lack of awareness did remain for over 20% of respondents for some options (see Figure n).

Figure n

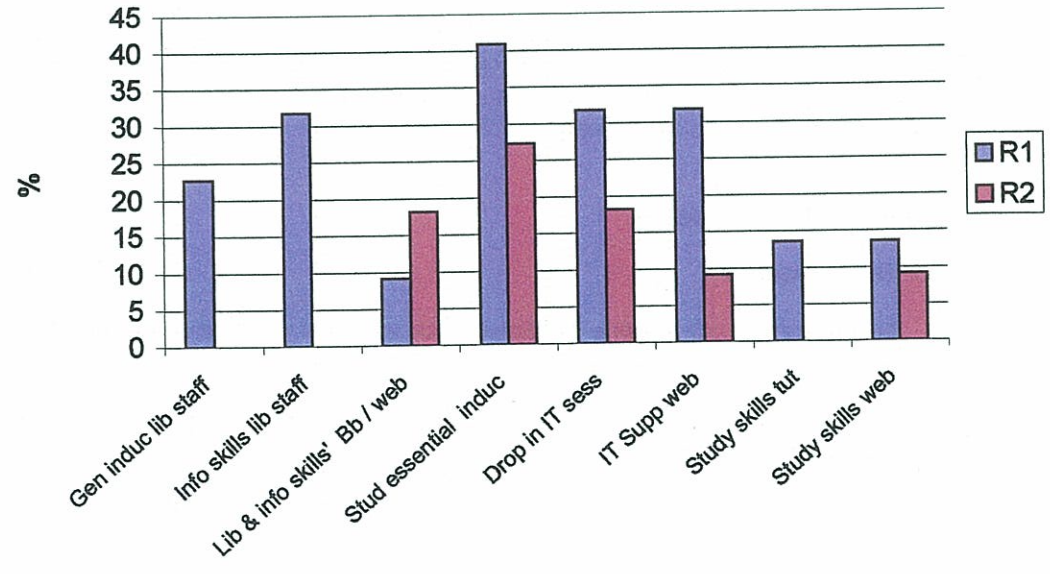
Percentage of first year respondents 'not aware' of training opportunities in round 1(R1) and round 2 (R2)



The second year students seemed to have a higher awareness of the 'Study skills tutorial' and 'Study skills on web site' than the first years (see Figures n and o). As might be expected the second years had a lower awareness of the various induction and information skill sessions that had been directed towards the first years.

Figure o

Percentage of 2nd year respondents 'not aware' of training opportunities in round 1 (R1) & round 2 (R2)



The second years did seem to be participating in some of the electronic training opportunities, with over 40% of respondents using the "'Library and information skills' on Blackboard / web site" and 45% in round 1 using 'Study skills tutorial'. This contrasted with a relatively low use of 'IT Support training on web site' with only a 9.1% rate of participation in round 1 falling to 0 in round 2, see Tab. 6.

Table 6
Percentage of second year respondents participating in training in rounds 1 and 2 of questionnaire

	General induction session by library staff	Information skills session by library staff	'Library and information skills' on Blackboard / web site	Student essentials induction session	Drop in IT sessions	IT Support training on web site	Study skills tutorial	Study skills on web site
R1	36.4	31.8	40.9	22.7	4.5	9.1	45.5	9.1
R2	36.4	27.3	45.5	18.2	0	0	36.4	18.2

3.2 Research diaries

These diaries were not analysed as only three were received from the second year cohort and none from the first year cohort. These three had very few entries and were filled in by groups of students rather than individuals. This meant that it was not possible to interpret their meaning. One factor influencing the students' non-participation might have been the long-term absence of the module tutor. This meant that the students did not receive regular prompts to fill in the diaries or a reminder to hand them in with their assignments. Some of the students' views on their non-participation are included in the results of the focus groups, see sections 3.3.1.5 and 3.3.2.5.

3.3 Focus Groups

Eight 2nd year students attended the focus group for students on module M2B although only 2 students attended for the 1st year module M1B. This means that some caution is needed when interpreting the results. The reasons for low participation were discussed with those attending the sessions and are reported in 3.3.1.5 and 3.3.2.5.

3.3.1. Year 1 Focus Group

3.3.1.1 Service issues

- Not aware that using online databases such as Mintel could be considered as 'library use'
- 1 respondent had attempted to use the EARs, electronic enquiry service, but had encountered difficulties

  "I did try using it once [EARs] *but found it a bit difficult, so it is not idiot proof I suppose."*
- The library was used a study space

"I used all my reports from Mintel but I just used the printed ones in the library. And I used them in the library space and used the library laptops to do more research."

- Appreciated late night opening of library
- Felt that library had had a positive impact on ablity to do assignment

3.3.1.2 Information resources

- Used specialist database Mintel – either accessed from Business School or preferred to access hardcopy in Library
- Used textbook that had purchased rather than look for books in the library
- Attempted to look at other databases but only used Mintel as most relevant

  "I think we looked on Emerald and things like that but they weren't very useful –like compared to Mintel. That might have just been because we weren't shown how to use those so..."

- Attempted to access other resources through the library tab on Blackboard but it was too difficult to find relevant information
- Used Google to find suitable websites but had some understanding of limitations of commercial sources.

  "We tried to have a look at company websites and stuff, but they were more corporate and stuff and they weren't so useful."

- Had not used journals either print or electronic

3.3.1.3 IT issues

- Had used library computers and laptops
- 1 respondent preferred to use computers in department
- Complained about lack of availability of computers in library

  "It would be helpful to have a few more computers anyway because they are always used up in the Library. Sometimes there are no laptops available as well – it depends what time you go in."

  "It's alright if you're in in the morning but if you go in the afternoon there is always a queue. If there is a queue and you're on the computer you feel like you've got to hurry up. So I just go in the Northumberland building because it is just easier."

3.3.1.4 Training

- Had been made aware of IT training through lecturer in induction
- Did not feel need to attend IT training– too busy and unsure of way around Campus
- NBS had an IT module which was regarded as helpful
- Had training in module from module tutor on using a specialist database (Mintel). This enabled them to use Mintel for their assignment.

"I was quite confident really because in the seminar she took us through Mintel and what we had to do and how to look for it. So that is where we started really. I didn't really use much else. So it wasn't too bad."

- Recalled library induction session and handout which were beneficial

  "I think it gave us more confidence to get out and do it. At least we knew where things were in the library so to get on with it."

  "I think it was good for instructions for the things we could use for our assignments and things."

- Recalled library element of Study Skills module M1A and felt that it was beneficial

  "It was about Hylife and how to reference work and stuff. It did help me find books and how to reference."

  "I remember the women telling us about that Cite them Right and that is helpful when you needed to come to reference."

- Had not used "Library and Information Skills" modules on web or Blackboard and had not seen the need to do so.

3.3.1.5 Project Participation

- Incentives might have worked for research diary completion but then possibly filled in inaccurately just before handing in to get incentive
- Assignment mark limited value as incentive to complete diaries (as small proportion of total mark) and again possibly filled in inaccurately just before handing in to get incentive
- Regular reminders to fill in diary might have been effective – perhaps on Blackboard
- Requirement from lecturer to hand in diary regularly at each seminar might have been effective
- Incentives such as alcohol or £20 cash were suggested as means of increasing attendance at focus group
- Smartcard credit not perceived as valuable so no incentive

3.3.2 Year 2 Focus Group

3.3.2.1 Service issues

- Would like 24 hour access to IT. 24 hour access to book stock desirable but not as important as IT access

  "....if they couldn't like afford enough staff to manage all the library I think IT is more important"

  "If you could just have one man as like security and then just a swipe card at the front you could use Drill Hall 24 hours."

- Would not expect 24 hour support – prepared to use help available electronically

  "We wouldn't expect that [24 hour support] just access would be good."

"Especially you know with the Internet and stuff. If you need support you can look it up on Blackboard on your own. The stuff is there."

- The library was important as a group study space for their assignment
- Appreciated access until midnight
- Lack of awareness of ability to renew books either remotely or at the desk without bringing the items in to Library
- Complained about staff attitudes and difficulties accessing library when they have forgotten their Smartcard
- Problems with missing books showing as 'in-stock' on catalogue
- Several respondents not aware that the Library was accessible through Blackboard
- Participants were aware of Hylife and used it to access information sources such as databases and journals, although not always other services.

  "I find that when I go on it [Hylife] I am normally looking for something really specific so I don't bother looking – I don't browse it – I just go to what I think is going to be exactly what I want. Instead of looking through and seeing what's what."

3.3.2.2 Information resources

- Emphasis on using market research reports (Mintel and Keynote). This was the message they received from teaching staff.

  "She [module tutor] *just said that obviously the Library has got the reports in but there's no certain books that we need to look at."*

- Most participants did not consider books as important sources for this assignment.

  "Because the books wouldn't have been specific enough for what we were doing. We had to think of a company and launch a product into it so it wasn't anything to do with books so that's why we didn't need them."

- Books mostly found by browsing shelves unless required books on another subject (in one example on fashion)
- Some participants did use books for background knowledge

  "We used text books – as [module tutor] was saying there wasn't a specific text book that covered everything. There were different ones that covered different bits… We used the theory and applied it to the company"

3.3.2.3 IT issues

- Complaints about queues for computers in Library
- Complaints about the cost of printing and printer problems
- Some participants had used Library laptops but some had problems with computers logging them off
- IT Support staff in library basement regarded as helpful

- Content with level of IT Support available despite not being available by phone on Sundays

- Would like additional powerpoint sockets in eating and drinking side of Library basement for laptop use

- Would like additional powerpoint sockets in special laptop areas on library floors

3.3.2.4 Training

- Participants had received training throughout their course in databases and information resources from both academic staff and library staff

- Identified 2nd year as more important time to receive detailed information skills training as more relevant than in 1st year

  "... first year could be like a beginners introduction and in second year, because you need to do things in a lot more detail, maybe go into a lot more detail like an intermediate level and then an expert"

- Preferred a specific user education session that they had received in a different module from library staff, which was tailored to their assignment brief. This seemed more relevant to them than general sessions

  "If it is relevant to what you are doing you are more likely to go because you feel that you are going to learn something, rather than something really vague that doesn't apply to you."

  "The other ones were a bit general but this one was really specific to what we were doing."

- They were able to transfer knowledge and skills from this specific session onto other modules including the one being considered in this study

- Not aware of "Library and Information Skills" modules on web or Blackboard. Claimed they would have used them if they had been aware.

3.3.2.5 Project Participation

- Had not completed research diaries as had either forgotten or decided not to as it carried no marks for their assessment

- Would have remembered diary if it had been included on assignment brief

- Would have completed diary for cash or assessment marks incentive but would have been likely to fabricate contents

- May have filled in diary if had been required to do so and to hand in at each seminar

- Most remembered receiving e-mail invitation to a Focus Group in the previous term but could not attend due to other commitments

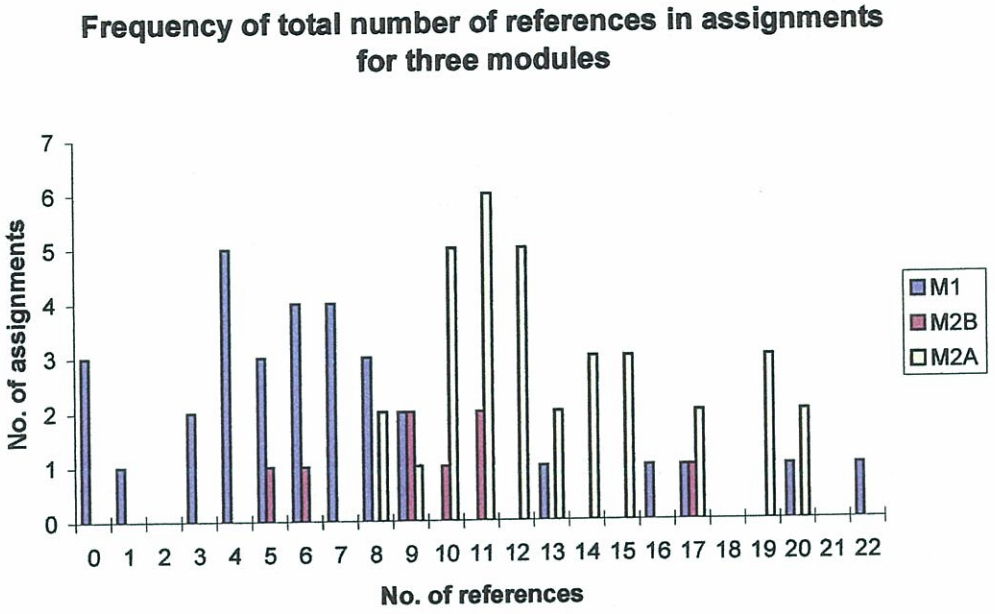
- Attended this session due to either signing up in the Newcastle Business School (NBS) Dissertation and placement preparation session or in one case a poster in NBS

- Smartcard credit incentive effective

3.4 Bibliography analysis

Some comparisons can be drawn between the bibliographies of the students on different modules. The 2nd year students, on both modules, cited more references than did the first year students (see Figure p and Table 7).

Figure p



There are further differences between the bibliographies when the references are examined by category type, see Tab 7. The most frequently cited source for the 1st year students on M1 were 'non-scholarly websites'. Websites were as frequently cited by the 2nd year students, although for module M2A, they were citing some scholarly websites in addition to non-scholarly ones. The citation of websites by students on all three modules was higher than their citation of books.

The 2nd year students were however citing other resources in other categories in addition to the websites. The most frequently cited resource by the students on M2A was 'scholarly journals'; not surprising as the assignment specified the use of a number of peer-reviewed journals. For students on M2B, the most popular category was 'other non-scholarly'. This level of use of 'other non-scholarly' resources by the students on M2B was almost exclusively accounted for by the use of market research reports which was a requirement of the assignment.

Table 7
Average number of references cited in assignments for three modules, in total and by resource category.

Module	Total References	Books	Scholarly journals	Non-Scholarly journals	Scholarly websites	Non-scholarly websites	Other scholarly resources	Other non-scholarly	Unidentifiable
M1	7	1.84	0.16	0.25	0.16	3.63	0.03	0.75	0.19
M2A	13.17	2.17	4.4	1.31	1.0	2.63	0.2	0.8	0.66
M2B	9.75	1.62	0.125	0.375	0	3.75	0	3.87	0

The most scholarly bibliographies, according to the average Scholarly Index (SI), were produced by the students on M2A (see Table 8). This was largely due to their use of scholarly journals. The lowest average SI was for the M2B assignments.

Table 8
"Scholarlyness" of Bibliographies

	n	Average No. References	Average SI	Pearson's r (Mark:No. references)	Pearson's r (Mark:SI)
M1	32	7	0.32	0.26	0.31
M2A	35	13.17	0.43	0.15	0.32
M2B	8	9.75	0.18	0.26	- 0.08

The assignments that had a higher total number of references for all three modules received higher marks, see Fig q. This relationship was weakest for students on M2A as reflected in the Pearson's correlation, see Tab 8. An increased SI for students on modules M1 and M2A was also correlated with a higher mark. There was however a negative correlation between mark and SI for students on M2B, see Fig. r and Tab. 8) This can be explained again by the emphasis on market research report required by this assignment. Indeed there is a correlation between citation of 'other non-scholarly' resources and mark for module M2B (Pearson's r = 0.27).

Figure q

Mark and Number of references

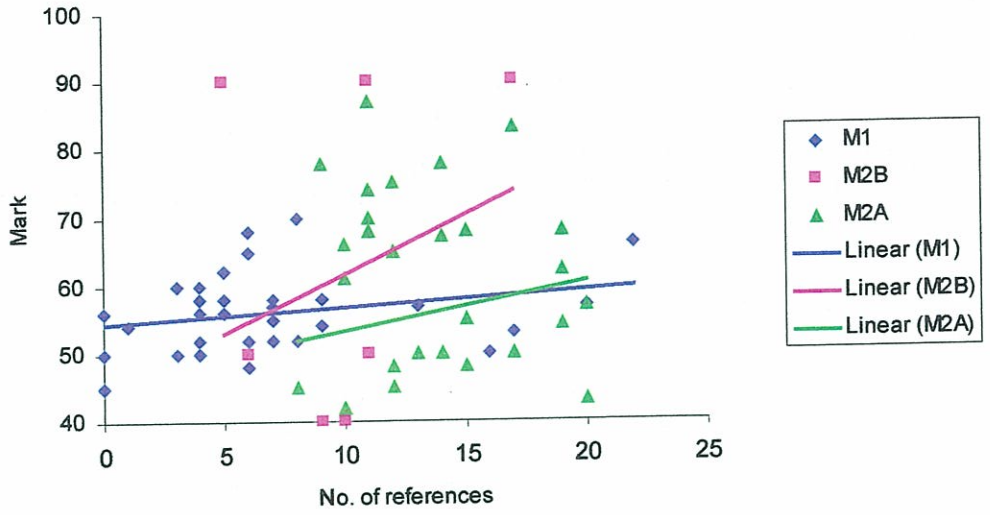
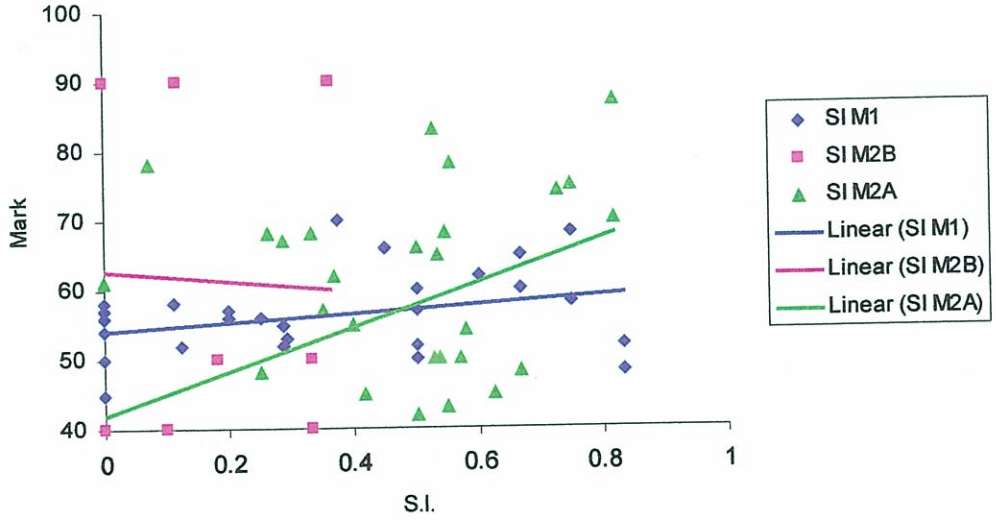


Figure r

Mark and Scholarly Index



4.0 Discussion and conclusions

4.1 Access

The students used a range of locations to access information resources and it seems that flexibility of access is a requirement for them. Many students used computers at home to access resources but even then they did not use them exclusively but used university computers including those in the library. The 1st year students used the library computers less than they had anticipated and this may be due to the queues for these computers that both groups complained of.

There was a demand too for more flexible use of library space so that they could access resources using their own or library laptops in proximity to printed resources in group or private study spaces. This desired flexibility extended also to time. Whilst students appreciated the current long opening hours of the library (8.30am – 12.00 midnight term time, weekdays) there was a demand for 24 hour access, particularly to computing facilities. It would seem that students want a full range of options open to them for accessing information resources.

4.2 Information resource use

The questionnaire showed the importance of specialist databases to the students on modules M1B and M2B. There was little usage of journals by either group and a limited use was made of books. The Internet was used extensively by both groups of students although this was not inappropriate for their assignments. The focus groups revealed that the module tutor had emphasised to the students that they needed to use market research reports, (available on specialist databases), for both module assignments.

This important role of the academic tutors in influencing students both directly, and through assessment choice, was reinforced in the bibliography analysis. Both the 2nd year modules that were analysed were for the same subject, Marketing, yet there were considerable differences between their references both in terms of the total number of resources cited and their scholaryness. It would appear that students are strongly influenced by the assessment criteria set by the academic staff for each module. So that when students were clearly told, both verbally and in the assignment brief, that they must include peer-reviewed journals they did so.

The difficulty of identifying suitable student assignments for the bibliography analysis study highlights the diversity of student assignments. The advent of problem-based learning (PBL) has maybe shifted patterns of resource use by students with direct implications for library services. In this study the assessment for M2B was problem based with students required to work in groups on a project about launching a product into the market place. This required the students to use market research reports for their research, and they did so. It would appear however that they did not use many academic or scholarly works to inform their research. Students on this module also had less of an assessment incentive than students on the other 2nd year module that was included in the bibliography analysis. This was because the report, which included the bibliography, was only worth 20% of the total assignment marks as the rest was for other outputs such as group presentations.

Although the students on M2B did use appropriate information sources for that assignment, there may be an inherent danger in PBL that although students engage with the problem, they fail to inform their work with sufficient theoretical knowledge.

Within the subject of business studies it would appear that there are many different variables affecting student assignments and their bibliographies. This small study has piloted a possible methodology of bibliography analysis that, if expanded to more modules, could possibly reveal some of these differences. It would be expected that bibliography analysis of completely different disciplines would reveal further variations in students' citation behaviour. Indeed personal communication with other researchers currently engaged in this actively indicates that there are probably quite large differences between disciplines.

4.3 Information skills

The 2nd year students considered themselves more confident and competent than the 1st years in their information skills. The 2nd year students are more experienced and practised in using a wider range of information resources, as revealed in the questionnaire and bibliography analysis. This could explain their increased confidence in using these resources although the focus groups also reveal the influence of training.

There is perhaps some evidence as well that the 2nd years are becoming more independent learners, relying more on "own research" to find out about resources. The 1st years did improve their self-assessed rating for information skills between rounds of the questionnaire, especially for the resources that had been new to them such as specialist databases; again this is probably attributable to a combination of training and experience.

Although the ability of students to reference correctly was not directly measured in the bibliography analysis, observation showed that their skills in this area were inadequate; with many first years failing even to grasp the basic concepts of citation and referencing. This indicates a training need. Although referencing skills are covered in the library's online "Library and Information Skills" and in the publication "Cite Them Right", it may be necessary to communicate these skills more clearly to students using other mechanisms.

4.4 Student support

Students were reluctant to seek help from library staff about information resources, preferring to rely on one another or to ask academic staff. If they had problems finding suitable material they tended to give up rather than ask for help (with the exception of missing books).

They were not reluctant to seek help for IT problems and generally regarded the IT Support service as satisfactory. The focus groups seemed to reveal a preference for seeking face to face support for both IT and library issues rather than using the electronic reference service of support web pages.

4.5 Training

The focus group revealed that the brief library induction sessions given to the first year students during their induction week were recalled by the students who felt that they had increased their confidence in using the Library.

These first years could also recall some of the content of the user education session given by library staff that had been embedded in a core study skills module. In addition they claimed this had helped them with their assignment. The first years felt confident in using the specialist marketing database that was recommended for their assignment as they had had a demonstration from the module tutor.

Both groups of students chose not participate in voluntary IT training provided by IT Support Services although they had benefited from a compulsory IT module in their first year. It cannot be assumed however that IT training offered by IT Support is not important for other groups of students who do not have a core IT module.
The second year students stated a preference for user education that had been embedded in a module and that, although delivered by library staff, had been highly tailored to their assessment for that module. They did however demonstrate that they were able to transfer the skills learnt on that module to other parts of their course. These students also wanted to have in-depth training in information resources in their second year as opposed to their first year as that was their point of need.

Both groups of students claimed that the face to face user education that they had received had had some impact upon them. However there seemed to be a low awareness and enthusiasm for other means of user education, including available online packages.

There is perhaps also a lesson for curriculum planning in that a co-ordinated approach is required. If students are to develop their information skills they require at least some modules at all levels that require them to engage in scholarly research as part of their assessment. Students revealed in the focus groups that library user education was most effective when it was embedded within their course and related to their assessment activity. To obtain maximum benefit close liaison between academic and library staff would allow library user education to be embedded within these targeted modules.

4.6 Impact

Did this study actually determine the impact of the library, in particular its learner support, on students? Unfortunately problems with the questionnaire meant that it was too much of a blunt instrument to measure the impact of specific learner support services and activities. The lack of clarity of some of the questions meant that it was not possible to cross-tabulate results as anticipated. In particular, in the second round of the questionnaire, a correlation between students' improved information skills and the training that they had received, could not be measured due to a confused response to the training question. There were also problems in that the assignments for the two modules in which students had completed questionnaires and attended focus groups, were group assignments. This meant that it was not possible to relate individual students bibliographies and marks to their user behaviour (ideally from both the questionnaire and the research diaries which were not completed).

If it was possible to obtain bibliographies for modules assessed by individual assignments, and these could be tied directly to the learner support that the individuals had received, then a more accurate measure of impact could be achieved. The problem would be in getting information on individual learners' support experiences. The difficulties in getting participants to accurately fill in research diaries means that this could either be attempted through an improved questionnaire or by controlling students' experiences. This could be done by providing user education skills training to some of the students in the study and not to a control group. This would give a clear method of measuring the impact of the training received but obviously there are ethical constraints in employing such a methodology.

Impact Study B
Appendix I

INFORMATION MANAGEMENT RESEARCH INSTITUTE

northumbria UNIVERSITY

Measuring the impact of higher education libraries

- This questionnaire asks about your awareness of information sources that are available to you at Northumbria University
- The form takes about 5 minutes to complete – simply write your responses or tick the relevant boxes -all replies remain anonymous

Many thanks for your time and assistance

The research is part of a national project by SCONUL (Society of College, National and Research Libraries) to investigate the impact of libraries on students learning and it is also linked to IMRI's JUBILEE project evaluating electronic information services

Q.1 **Age** ☐ 17-19 ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60+

Q.2 **Gender** ☐ Male ☐ Female

Q.3 **When searching for information electronically, where do you access a computer?**

		Frequently	Sometimes	Rarely	Never
a.	University library PC areas	☐	☐	☐	☐
b.	Other university PC areas	☐	☐	☐	☐
c.	Home	☐	☐	☐	☐
d.	Other (Please state) _____	☐	☐	☐	☐

Q.4 **How would you describe your skill levels in terms of each of the following?**

		Never use	Beginner	Intermediate	Expert
a.	Using basic computer packages (e.g. Word)	☐	☐	☐	☐
b.	Searching for and retrieving information electronically	☐	☐	☐	☐
c.	Evaluating the quality of information found electronically	☐	☐	☐	☐

Q.5 **In the course of your studies, which information resources do you use?**

		Frequently	Sometimes	Rarely	Never
a.	Own books	☐	☐	☐	☐
b.	Printed library books	☐	☐	☐	☐
c.	Printed library journals	☐	☐	☐	☐
d.	Electronic journals	☐	☐	☐	☐
e.	Library web pages (Hylife etc.)	☐	☐	☐	☐
f.	Journal article databases(Emerald etc)	☐	☐	☐	☐
g.	Specialist databases (company reports, MINTEL etc)	☐	☐	☐	☐
h.	Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
i.	CD-ROMS	☐	☐	☐	☐
j.	Blackboard	☐	☐	☐	☐
k.	Other (Please state) _____	☐	☐	☐	☐

Q.6 **How would you describe your skill levels in using the following resources?**

		Haven't used	Beginner	Intermediate	Expert
a.	Own books	☐	☐	☐	☐
b.	Printed library books	☐	☐	☐	☐
c.	Printed library journals	☐	☐	☐	☐
d.	Electronic journals	☐	☐	☐	☐
e.	Library web pages (Hylife etc)	☐	☐	☐	☐
f.	Journal article databases (Emerald etc)	☐	☐	☐	☐
g.	Specialist databases (company reports, MINTEL etc)	☐	☐	☐	☐
h.	Internet search engines (Google, Altavista etc)	☐	☐	☐	☐
i.	CD-ROMS	☐	☐	☐	☐
j.	Blackboard	☐	☐	☐	☐
k.	Other (Please state) _____	☐	☐	☐	☐

Q.7 **How do you learn about information resources such as those listed above?**

		Frequently	Sometimes	Rarely	Never
a.	Recommendation from friend/ other student	☐	☐	☐	☐
b.	Recommendation from lecturer	☐	☐	☐	☐
c.	Library staff	☐	☐	☐	☐
d.	Library visit	☐	☐	☐	☐
e.	Library webpages	☐	☐	☐	☐
f.	Library leaflets/posters	☐	☐	☐	☐
d.	Own research	☐	☐	☐	☐
e.	Other (Please state) _____	☐	☐	☐	☐

Q. 8 **Have you participated in any of the following training opportunities?**

		Yes	No	Not aware
a.	General induction session by library staff	☐	☐	☐
b.	Information Skills session by library staff	☐	☐	☐
c.	"Library & Information Skills" on Blackboard/website	☐	☐	☐
d.	Student Essentials Induction session	☐	☐	☐
e.	'Drop in' IT session	☐	☐	☐
f.	IT Support Training on website	☐	☐	☐
g.	Study Skills tutorial	☐	☐	☐
h.	Study Skills on website	☐	☐	☐
i.	Other, please state	☐	☐	☐

Many thanks for your time and assistance

Impact Study B
Appendix II

Using resources						
Library books						
Own books						
Printed journals						
Electronic journals						
Journal article databases (Emerald etc)						
Specialist databases (MINTEL etc)						
Internet search engines (Google etc)						
Blackboard						
Getting support/information						
Visiting Library enquiry desk						
Telephoning Library enquiry desk						
Asking other Library staff						
Using Electronic Answering (EARS)						
Using Hylife Marketing webpage						
Using other Library webpages						
Visiting IT Support desk						
Telephoning IT Support helpline						
Visiting Study Skills Centre						
Using Study Skills Centre webpages						
Asking teaching staff						
Asking other students						
Working in the library						
Quiet study space						
Group discussion areas						
Using university computer in the library						
Using own computer in the library						

Please turn over

RETAIL MARKETING DIARY

Name:

Every time you do some work for your Retail Marketing (M1B) assignment please mark down the date and the amount of time spent to show how you were

- using resources
- getting support/information
- working in the library

There are no right or wrong answers – we are simply interested in what you used/didn't use!

EXAMPLE

Library books	17/10 30 mins	17/10 1 hour	18/10 20 mins	
Own books	17/10 30 mins			
Printed journals	23/10 40 mins			

Remember to hand in your diary with your completed assignment

Thank you very much!

Impact Study B
Appendix III

Impact Focus Groups

Welcome and introduction

Impact

Do you think the Library had an impact on how well you were able to do your assignment?

How?
Why?

Information seeking behaviour

How confident were you in finding the information that you needed for your assignment?

How did you decide which information resources to use for your assignment? [give examples print, electronic etc.]

Help

How did you learn how to use electronic resources such as databases?

Did you need any help using information resources?
Which? What sort of help?

Where did you get help?

Training

Did you attend any Learning Resources training sessions? [outline options as in questionnaire...]

If no:
Why not?
If yes:
Did this increase your confidence in finding the information that you needed for your assignment?

Did you use any of the online training resources? [outline options as in questionnaire...]
If no:
Why not?

If yes:

Did this increase your confidence in finding the information that you needed for your assignment?

Are you more confident now at finding information for assignments than when you started your course here? [Why?]

Data collection

[Explain about research diary for module]

What would have encouraged more students to fill in diary?

[Thank you for attending today...] **Do you have any ideas what would have encouraged more of your classmates to do so?**

Conclusions

[Opportunity to repeat Impact question if necessary]

[Summarise discussions] **Does this reflect what's been said?**

Is there anything we should've talked about but didn't? Do you want to add anything?

[Thanks etc]

APPENDIX F

JUBILEE

Cycle 5

PILOT CASE STUDY

Deborah Goodall

December 2003

CONTENTS

1 INTRODUCTION

The fifth cycle of the JUBILEE (JISC User Behaviour in Information seeking: Longitudinal Evaluation of Electronic information services) project is examining three 'new audiences' in relation to the use of electronic information services, namely, students studying HE in an FE environment, Modern Apprenticeships, and Adult and Community Learners. In practice these groups have been purposively sampled and the fieldwork for the 'new audiences' strand of the fifth cycle is drawing from the following selection of courses and subjects:

- Foundation Degrees – Early Years Studies (EY)
- Advanced/Modern Apprenticeship – Hospitality and Catering (MA)
- A levels/HEFCs – English / Business Studies / Biology

This report presents the findings from a pilot case study conducted in a college in the North of England during October-December 2003. There was only a short amount of time available for developing the data collection instruments, establishing contacts at the college, and collecting, synthesising and analysing the data. The pilot has been invaluable in testing the fieldwork process and procedures and refining the questionnaires, interview and focus group schedules used for data collection for the main Cycle 5 project. This report demonstrates how the resulting data can be used to give a picture of the use of electronic information services by these groups of staff and students.

2 METHOD

Academic, library and managerial staff at the college were initially contacted in person or by email to discuss the JUBILEE study, ascertain their willingness/ability to be involved in the fieldwork and identify appropriate contacts and groups of students. Staff and students from three courses participated in the fieldwork: an Early Years Foundation Degree, a Modern Apprenticeship in Catering and an HEFC in English.

- Questionnaires were distributed to students in class by either their tutors or members of the JUBILEE project team.
- Questionnaires were also distributed to academic and library staff either in person by members of the JUBILEE project team or by post. One questionnaire was distributed electronically but was not returned and was followed up with a personally delivered form.
- Semi-structured follow-up interviews were held with academic and library staff.
- Follow-up focus group discussions were held with groups of students from each course.
- A senior manager was also interviewed.
- Other members of college and university academic and library staff were also identified as potential interviewees but there was not enough time to conduct these interviews.
- The questionnaires were analysed by hand using Excel to produce tables and charts. The tapes of the interviews were transcribed and summarised. The tapes of the group discussions were transcribed and, where possible, the data categorised before being summarised. At this point it was possible to identify weaknesses in the data collection instruments / procedures and recommend appropriate action to improve the data collection process for the Cycle 5 project.
- Section 3 of this report draws from interview findings with managerial staff.
- Section 4 draws from questionnaire and interview findings from academic and library staff.

- In sections 5, 6 and 7 of this report the findings from academic and library staff and student questionnaires and interviews/group discussions are blended together to give an overall picture of the use of electronic information services for each of the new audiences. Care has been taken however to distinguish between findings from questionnaire and interview data, and staff and student data.

- Section 8 offers a brief commentary on these findings.

3. THE COLLEGE: Managerial Overview

The college is one of the most widely attended educational institutions in the north east of England delivering technical, vocational, and community-oriented instruction through its main site, five outreach centres and Web-based instruction. Over 2,000 full-time and 10,000 part-time students are enrolled each year. To attract students and maintain its reputation as a valuable source of training for industry and business, the college has positioned itself as a technology leader.

Electronic information services are funded centrally and managed by an ICT Manager. Each year the college spends around £400,000 on hardware and software out of a total college budget of around £12 million.

3.1 Importance of electronic information services in the college

"They're absolutely crucial. . . we have a policy of trying to reduce the use of paper which makes electronic services far more important . . . our intranet is now probably the most significant method of communicating en-mass. . . we still do have a weekly paper bulletin which goes to all staff but . . . it's often used to point people to the intranet and say this has appeared have you seen it. . . EIS is also very important in terms of access to our student records because all staff have access to the student record so they can look up basic information about students, what sort of courses they're on, pass lists, all that sort of thing. And as I say e-mail is used extensively by most people."

3.2 College ILT strategy

". . . the strategy has developed over the years. I think our original strategy was about making IT available to people. It is now widely available. It's now getting people to use it more and so it's about promoting things . . . sort of demonstrate to people that it's worth them doing it because people only use things, in my experience, if it makes their life easier . . . the student record system is a good example."

"Library services are something that support teaching so I don't really see them as separate strategies. They're all part of the same strategy."

"We have an IT committee (meets two or three times a year) which is involved with development and monitoring of the ILT strategy. (It) has representation from all the faculties plus key support staff and others who monitor the strategy."

3.3 Drivers

"... there are the internal drivers like (ILT champions) but I think students are also drivers as well because students, more and more, are expecting effective use of IT. Some coming through from schools have had excellent IT provision at school and they expect it to continue . . . I think that the (local) Learning and Skills Council is becoming more of a driver. (It) has very firmly nailed its colours to the mast of using e-learning in the widest sense to solve some of the learning infrastructure problems in the area. . . and so therefore LSC priorities become college priorities and so that's a driver. And so too is e-learning through LearnDirect . . . we have just restructured ourselves to put in place a revised infrastructure to support LearnDirect. "

"Our developments now are about developing teaching materials for use. We spent a lot of time putting in the infrastructure . . . it's now getting people to use it effectively. . . it's now encouraging people to use it but it comes back to the fact that people will use it when it's of benefit to them and I don't believe you can actually force people to use electronic systems . . . that's why for example we have reduced the size of the bulletin . . . it forces people to log on because they don't know what's going on otherwise. That's the sort of drivers we use."

3.4 Relationship between library staff and senior management

"I think that of all the areas of the college our library services are one of our weaknesses . . . there's a number of people there who are not the most proactive people in the world. . . And I mean that not just in an IT sense really, sometimes you think 'who do they actually think the customer is?'. . . we have had complaints from students about them at times. We try and do something about it but it's about trying to change some cultures in a sense because the actual head of the library services... she uses IT but I wouldn't say she's totally embraced IT, she'd like to go back to books really."

3.5 Access

Access was generally felt to be adequate:

"All managers have a desk top and that also applies to a large number of support staff . . . and then every staff work area contains one or more desktop access. But it is not on a one to one basis . . . all our PCs work on the same network so (staff) can go into the learning resource centre or the IT centre and log on there."

Although it was recognised that provision was not ideal and there were problems with:

". . . teaching staff access in work areas because the structure of the rooms is such that if we actually gave everybody a PC on their desk we wouldn't actually be able to get the staff in the room! "

3.6 Academic staff use of electronic information services

The picture of academic use however was very much a fragmented one.

"I think they use it extensively for basic admin, student records and that sort of thing. How much they use it for teaching I honestly couldn't say . . . I think there are some people who use it extensively and imaginatively, there are some people who will hardly use it at all. Then there's that group in the middle who will use it probably still at the stage where they'll be saying they expect all the assignments to be word processed, that sort of level, and then there are others who will be (encouraging) students to do research on it, will set assignments that will involve accessing websites and that sort of thing. So I think we've got a total continuum."

3.7 Academic staff training

"We have a staff training budget with priority areas and one of the priority areas is, and has been for a number of years, IT. At the start of each year we set targets for each faculty and that feeds through into individual training plans and those individual training plans in many cases will involve development of skills in ICT. Much of that we deliver is in-house because it's cheaper . . . we've now reached the stage where the majority of people are confident in using the basic principles of databases, spreadsheets, word processing packages, web searches, all the basic principles of using IT. A lot of it now is actually sort of workshop based, providing support for teaching staff, to how they can develop using ICT. . . a lot of our staff training now is about 'okay, I know how to use it, but what am I going to use it for?'"

3.8 Student use of electronic information services

"I think the vast majority of people coming in from schools are perfectly competent . . . and I think that's also the case with adults. I think one of the interesting things is the number of adults we've got enrolling on IT courses is declining because we've reached the point where those adults that want to know (about IT) know . . . adult enrolments in IT are declining and of course they're not being replaced because the ones coming through school have already done it."

"I've got a concern about internet access in terms of volume . . . we do have monitoring software. . . They don't all have access all the time. We do control. Students can't just go in and log on. We do try and limit. I'm less concerned about SkySports websites than some other sites! We do try and control access and all users do have to sign a code of practice and we keep an electronic record of when it was signed by an individual so that they can't argue 'well, I didn't know.'"

"The nature of this college is that the students are not highly academic . . . there are a lot of students who never use books. It's not something that sort of enters their frame of reference to any great extent, it's very different for example from a university library . . ."

4. LEARNING RESOURCES: library and academic staff viewpoints

The library at the main site has 2 full time staff and 1 member of staff whom splits their time between this and another site. At this main site, along with books and journals, staff and students have videos on practical subjects such as law and building, some CD Roms are available as are leaflets providing information on the library services such as laminating and counselling. The library opens each week day at 8.45am and closes 4.30pm on Fridays, 7pm on Wednesdays and 8 pm other days. One of the other sites has 1 full time senior staff member who is currently working half time and 1 other part time member of staff. Staff shortages at this site recently resulted in a reduction in opening times and were it could benefit students if the library opened at the weekend opening times are limited to 9am till 8pm Monday to Thursday and 9am – 4.30pm on Fridays.

There are 'Learning Resource Centres' at the college's two main sites and the three outreach centres:

"*They call it a Learning Resource Centre . . . but they still think of it as a Victorian library in many ways.*"

Two members of library staff were interviewed, the full-time Librarian and a part-time senior Library Assistant. Both have shared access to a desktop PC in the office. At the main site two workstations are shared between four people: *"Sometimes we will still have to use an open access computer and it's very difficult if you . . . have to do confidential work . . . But usually it's not too bad."*

4.1 Access

Library staff believed that staff and students can readily access a networked PC in the library and in other college areas. There were 22 student access computers at the main site, although students could also use computers in other parts of the college;

> *"There are the occasional times when all the PCs are in use but it never seems to last more than quarter of an hour to half an hour at any given time and there's quite a lot of time when things are really quite quiet."*

However not all academic staff were so positive. All four academic staff that completed questionnaires believed that students can only sometimes readily access a computer to use

electronic information services in the college and in the college library. During an interview one tutor expressed the opinion that, for her students:

> *". . . it probably depends when they want to use the computers . . . at times it's probably difficult to get on a computer so I think possibly they could do with more. . . Obviously it's quieter in the evening, there's probably more opportunities to access the computers because there aren't many classes working on the computers at night."*

Regarding her own experience she commented...

". . . I know it's difficult sometimes to book the computers (through the LRC) when I want for the class, I mean I can't necessarily book them the hours I want."

Another tutor had found that he could not rely on computers being accessible or available when required:

> *". . . we try the LRC but you can't guarantee, because it's open learning, that you can use it. Resources are the problem not the actual systems. . . Really the hold up is lack of hardware. You know you can't plan your lesson to use the room because then suddenly it's changed or whatever, so we still tend to use paper back-up. If we get the opportunity then we use the IT suites."*

Two tutors reported that computer access was not really an issue for their course:

". . . we don't usually have any problems with computer access of an evening . . . (and) every student is going to get their own laptop soon hopefully."

Some of these access problems appear to stem from the different expectations of library and academic staff. Regarding the main site, library staff commented:

> *"I think we've got good provision. What impacts on it is when people bring in classes that's when the system falls down because we, essentially, should be a drop-in centre where people can come in (and do) private research . . . but we do compromise (with) classes coming in (in the interests of) maintaining good relationships . . . also some research needs to be done on the computer and books at the same time"*

At the main site library staff were conscious that demand was not evenly spread throughout the college:

> *"I think the big problem is . . . there's no easy access to other computers. There is an (IT suite) but there are issues of access . . . We're trying to get to the bottom of it. They're less willing to use that room than they are to use the library."*

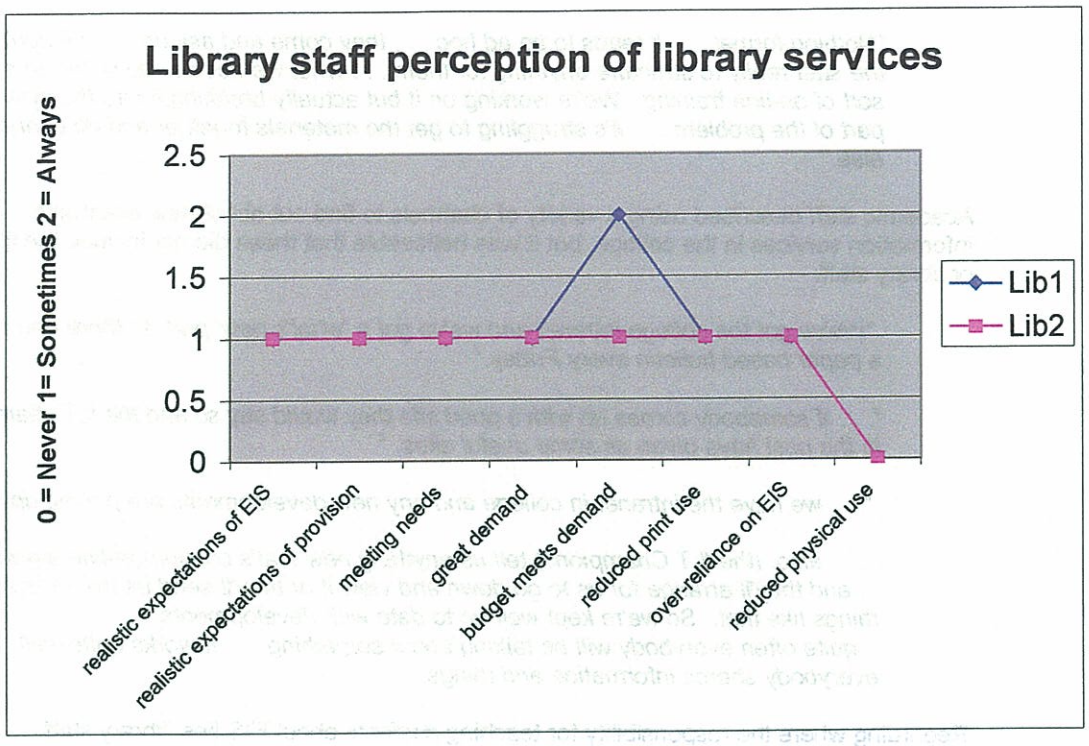
These problems were resolved at a smaller site by controlling access:

> *"At (that site) we do have class sessions and we do have rather stricter rules about the time in that we never allow anything to be booked between 12 and 2, and we never book more than half the computers at any one time. "*

> *"(At that site) we actually have the Curriculum Director's word behind us that demands they look for somewhere else before coming to the LRC . . . there has to be a good reason why they have to be doing research in the LRC and nowhere else."*

4.2 Training and awareness

Regarding training for academic staff and students, both library staff indicated on the questionnaires that the library provides a general introduction and the one-off face-to-face/group sessions by request and one also noted that self-help materials are provided for both groups of users. During the interview library staff described staff training as:



The two members of library staff agreed on all of these issues except whether the budget available for EIS enables demand to be met. Some enlightening comments were made during the interview regarding some of these issues, for example, referring to student and staff use of EIS:

> *". . . it's surprising that some of our older students at the main campus are very computer minded . . . one of the things that surprises me here is that quite a lot of our students are relatively unfamiliar with computers. . . it clearly surprises me to find people coming straight from school who have computer problems. "*
>
> *"In terms of information use (students) will have . . . a specific question to answer and it seems like the desire is to find a book or an internet page with the question answered in the title . . . I think that's just an extension of the problems we used to have when the source was books, even when we were just looking at books they wanted a book that said the words that they were looking for in its title and they didn't even go for the concept of actually picking up a book that was approximately (in that area)."*
>
> *"(Another) problem that we're encountering is that (previously) (staff) picked the books and staff were recommending the books to us. Publishers had published the books so (there were a number of checks on reliability) . . . When they go online (students and staff) are not . . . taking some responsibility for ascertaining whether or not (something is reliable) . . . consequently I almost think that some of the studying is going backwards. . ."*
>
> *"Internet's the flavour of the day. . .we've got so much access for the students . . . the problem with that is that they don't need it really . . . they don't need to be on-line . . . essentially they're not really doing any work . . . you could say they are actually learning something by doing . . .but there is quite a lot over-dependence on using the internet. . . if you actually ask them what they've learned, as compared with maybe sitting and reading a book, it's . . . almost becoming an excuse to come in and do nothing."*

"Nothing formal . . . It tends to be ad hoc . . . they come and ask us . . . we don't have the staff really to structure anything for them . . . what we need to do is set up some sort of on-line training. We're working on it but actually breaking it into the system is part of the problem . . . it's struggling to get the materials together and do everything else."

Academic staff described using a variety of channels to find out about new electronic information services in the college, but it was noticeable that these did not include the library or library staff:

"We've got the college intranet and we've got a 'what's new' part on there and we get a paper based bulletin every Friday."

". . . if somebody comes up with a good site they would say so and the ILT champions in the past have given us some useful sites. "

". . . we have the intranet in college and any new developments are posted up there

. . . also, (the ILT Champions) tell us anything new that's coming on-line anywhere . . . and they'll arrange for us to go down and view it or they'll send us the sites and things like that. So we're kept well up to date with developments.
. .quite often everybody will be talking about something . . . it works quite well, everybody shares information and things."

Regarding where the responsibility for teaching students about EIS lies, library staff commented:

"We would like to be responsible but actually voting ourselves into the system . . . is one of our problems." They also observed:

"We could do with sort of integrating some kind of study skills module into the curriculum . . . I've seen this in other FE colleges and much more in HE, it's becoming more of a thing where they integrate these on-line study skills and just general study skills into the curriculum . . . "

"We try our best to recommend good practices we've got. . . I've introduced staff to things like the virtual training suite and places that they can send students to go to start learning about some of the skills they're going to need. On the intranet we've got some links to the Netskills material. So we're trying to create the framework in which students can . . . use the on-line services to actually impact on their work successfully . . . but at the minute it's not embedded in the curriculum. We have our intranet site, we have leaflets, but it's not kind of compulsory, there's no real checks as to whether people are meeting the (grade)."

4.3 Library staff: everyday experience with electronic information services

Library staff were asked to indicate their experience relating to electronic information services in these areas:

- Users' expectations of what EIS can provide are realistic
- Users' expectations of the library's level of EIS provision are realistic
- The library meets the need of its users in terms of EIS provision
- There is great demand for EIS provision
- The budget available for EIS enables demand to be met
- As provision of EIS has increased, use of print material has reduced
- There is an increasing over-reliance on EIS by users
- Enabling remote access to EIS has reduced physical use of the library

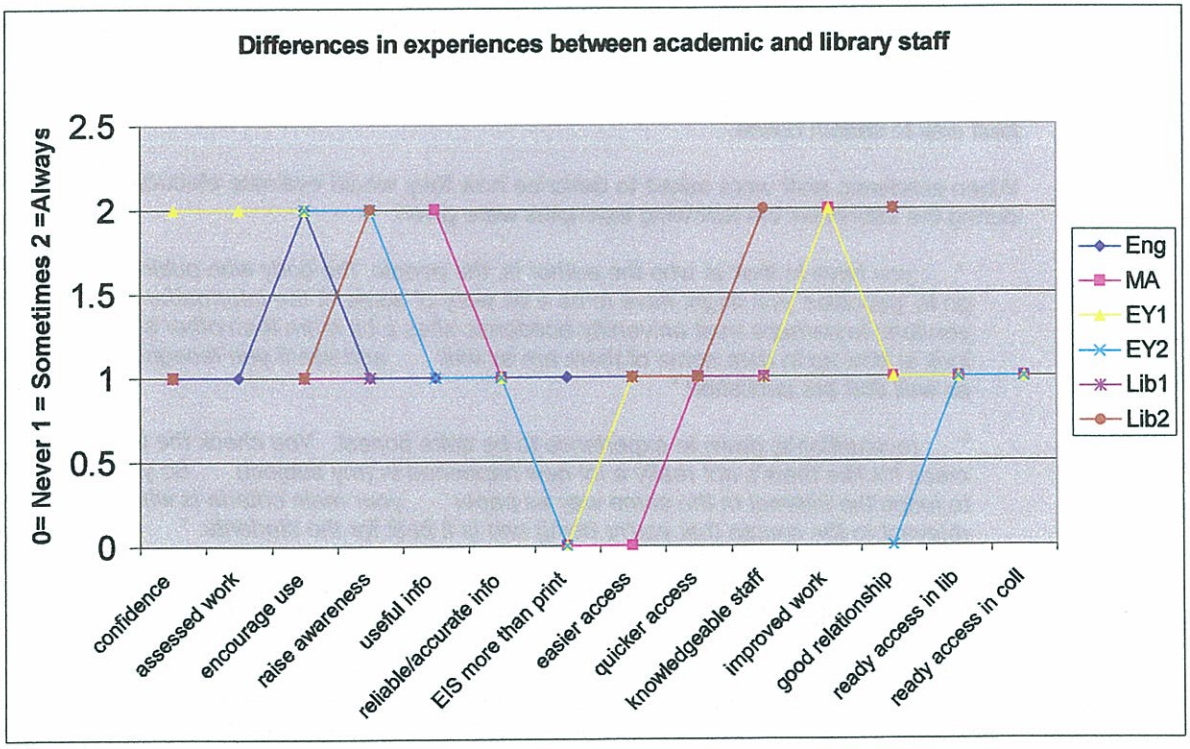
Despite student-college agreements and filtering software there were problems of misuse:

> *". . . younger students are more likely to be using PCs for not direct work study related material, they're more likely to be on chat lines in the evening really and it tends to be the younger student that we have trouble with (using the) internet."*

4.4 Library and academic staff: everyday experience with electronic information services

Both library and academic staff were given a list of similar statements and asked to indicate their experience relating to electronic information services. The statements related to:

Confidence in using EIS
Requiring the use of EIS for assessed work
Referring to and encouraging the use of certain EIS
Raising awareness of how to evaluate the content of EIS
Ease of obtaining *useful* information using EIS
Ease of obtaining *reliable/accurate* information using EIS
Using EIS more than printed sources
Ease of obtaining useful information using EIS rather than printed sources
Quickness of obtaining useful information using EIS rather than printed sources
Knowledgeability of library staff about the EIS they provide
Improvements in work due to EIS use
Good working relationships with library/academic staff
Computer access for students in the college library
Computer access for students in the college



As the chart shows academic staff had different experiences in their use of electronic information services. Staff were most likely to have the same experience 'sometimes'.

In terms of 'always' and 'never', of the three academic staff answering the question, all three believed that their work had always improved as a result of EIS use. Three out of four academic staff said that with students they always referred to and encouraged the use of

certain EIS. And three out of four academic staff never used electronic information sources more than print.

There were also areas where library and academic staff disagreed, for example, regarding whether library staff were knowledgeable about the electronic information sources they provide and whether there were good working relationships between academic and library staff. Library staff rated their own skill levels as being high-medium for using books, printed and electronic journals, databases and the internet, and evaluating information, however academic staff were not so convinced of their expertise.

One member of staff felt that s/he still had a need for "*commonplace training*" such as "*quite simple things like using scanners and that sort of thing.*" In contrast the other member of staff had participated in more training:

> *"I've been lucky because I've been to loads of external training. . . some of it's been with the RSC and JISC, they've organised things like sessions on the virtual training suite . . . I've been through quite a few Netskills courses at the university, covering databases and web access, how to improve the web access for to meet the new race/disability awareness legislation and also sessions on how to use VLEs, how to start integrating them in terms of getting going . . . "*

4.5 Evaluating information

Library staff rated academic skill levels in evaluating information as medium-low, commenting in the interview that "t*here's a wide variety of IT literacy in the staff . . .*", however three out of the four academic staff claimed that they sometimes-always raised awareness of how to evaluate electronic information services. Library staff observed that academics had "*difficulty evaluating online materials. They don't appreciate that the www is not as regulated a source of information as, for example, the books on the shelves, that using Google is not always the best way to search online.*"

When academic staff were asked to describe how they would evaluate electronic information during the interviews the following examples were given:

> *". . . you have to look at who the author is, the people, the body who published it. If you go to 'geocities' you might have to be a bit wary of some of the information ... I suppose you tend to perhaps trust university academic sites a bit more than other sites . . . and look at how up to date some of them are as well . . . and see if you recognise any names as well that are published."*

> *". . . (evaluation's) down to experience to be quite honest. You check the validity of it. . . I mean it's like there's not really a lot new happened in (my subject). . . So you've just got to judge the internet in the same way as paper . . . your main criteria is whether it is relevant to the course that you're doing and is it best for the students. "*

5. FINDINGS FROM FIELDWORK: FOUNDATION DEGREE: EARLY YEARS

The Early Years Foundation Degree is a new venture for the college and started in September 2003. The students involved with the fieldwork were the first intake of students for this course. Students and staff are based at the main college campus and all teaching takes place at this site, however students and staff also have full access to the Learning Resources and IT facilities and services provided by the partner university.

Key findings from the questionnaires: Early Years Foundation Degree students

- All of the students who answered the question claimed to use a computer to find electronic information.
- All of the students who answered the question were searching for electronic information on a computer at home and on a weekly basis. Home use was deemed necessary as the students were part-time and had other commitments, and because college resources were unsatisfactory.
- Computer use was spread over a variety of locations.
- The sources of information to help with studying that were used regularly on a weekly basis and by the majority of students were the internet, handouts, own books and college web pages. Three of these four sources, the Internet, handouts and own books, were also rated as easy to use by the majority of the sample.
- Databases, electronic journals and printed journals and CDROMs were least likely to be used by the majority of students.
- In terms of ease of use, small, but equal, numbers of students found electronic journals, CDROMs, college webpages, and databases easy and hard to use.
- In practice, the main sources of information/training about electronic sources of information were academic staff and, equally placed, university library staff and the students themselves. The majority of the sample thought that academic staff were responsible for their training electronic sources of information, followed by themselves.
- All of the students who cited a favourite source of electronic information gave an Internet search engine. Search engines were liked because they were easy to use but disliked because they were time-consuming to use.

5.1 Early Years Academic Staff

Two members of full-time staff were responsible for this course. They both had access to a shared desktop PC in office and had opposing opinions about this:

> *". . . Sharing a computer is an absolute pain . . . I'm lucky to have one of the college's laptops and it's so flexible. You can do work at home, I also do work in the office when other people are on the computers, and I take it into my sessions and students can use it within the sessions as well."*

> *"(Sharing a computer's) not too bad . . . one person tends to just check e-mails and (another) uses it for writing things up. I mean I use it quite a lot but usually it's a glorified typewriter and I do use it for e-mailing and finding things on the net."*

It also became apparent during the interviews that access to the computer network had been troublesome during the time of the fieldwork. Similar comments were made by both staff, for example:

> *"We've just switched over to XP recently and we've lost a lot of my work. The service does get interrupted sometimes because of problems and they've got to shut down the network and things like that but it's not all the time, it's not too bad."*

5.1.1 Use of electronic information resources

The questionnaire data showed that one person searches for information electronically, every week and always feels confident in using EIS. The other searches for information electronically every 2-3 months and sometimes feels confident in using EIS. Both staff were using electronic information services to prepare for lectures, research/gather information and communicate with students/staff.

Both said they sometimes find it easy to obtain useful and reliable and accurate information using EIS, however neither used EIS more than printed sources. During the interviews one person commented:

". . . you know you can end up spending quite a lot of time looking for things on the net and then getting absolutely nowhere and thinking 'God, I've just wasted all that time.' I do use books more because I suppose I'm from that generation really but I'm not kind of averse to using the net because I pick up a lot from students . . . "

From the questionnaires both staff used their own books and the Internet on a weekly basis, and found them easy to use. A typical example of Internet use was described by one person during the interviews:

". . .I've been on Amazon looking for suitable course books for the students . . . That's my latest perhaps frequent use in the last two or three months. I tend not to do search engine things but for no reason at all, probably don't think about it first - I tend to be book orientated."

There was little or no use made of printed and electronic journals and databases. Where these were used they were described as 'hard' to use on the questionnaire, although during the interview one member of staff commented on using the university library's in-house database: *". . . I've used that one and that was really good. I was in there a fortnight ago doing some research for one of my classes and used that database and found the journals that I needed . . ."*

5.1.2 Learning about electronic information services and training

Both academic staff said they learned about sources of electronic information by recommendations from library colleagues, and one person also used recommendations from academic colleagues and students, as well as own research.

Both staff had participated in training sessions for their students provided by partner university IT and library staff. During the interviews they commented:

"The training was fine. I did find it was a lot of information to take on in one go and the students have fed that back to me a little bit as well. It's one of these things when you're being told things about computers you need to be doing it quite regularly otherwise you forget quite quickly."

". . . the students felt that perhaps they were a little bit overwhelmed but I think they felt welcomed . . . they knew 'I've maybe not got the whole of the message just yet, but I know that I can go back because they've shown me where to go to ask for help and look for things'."

Staff training received within the college apparently concentrated on the practicalities of using IT:

"We all got trained when PCs started to become commonplace in staff rooms but it tended to be how to send an e-mail to somebody or things like that. I can't remember that I've had a session where somebody's said 'this is the most effective or efficient way of finding what we're looking for.'"

Only one person had received training from college library staff and during the interviews it became apparent that there were outstanding training needs in terms of information skills, for example:

"I think there should be more training given for lecturers on HE courses about the access, the on-line resources that are out there, rather than being left to your own devices and kind of flounder around a bit and not really knowing what you're looking for . . . There's Athens floating around somewhere I know nothing about it. . . "

"For me, (searching's) typing a word into a search engine and clicking on websites, and if there's a better way of doing them then, yeah, of course I'd like to know. I don't know if there is a better way."

In contrast the Learnwise training, delivered by the ILT Champions in the college, was praised:

" We've had quite a lot of training from our ILT champions about Learnwise . . . we put a bid in and we got time on our timetable. I think we must have got a couple of hours a week for quite a considerable number of weeks and at that time we had one of the Champions available to us at all times if we needed to contact them. At the beginning we had them literally in the room with us but as we got more confident we didn't need them. . . "

However other comments revealed that there was still progress to be made:

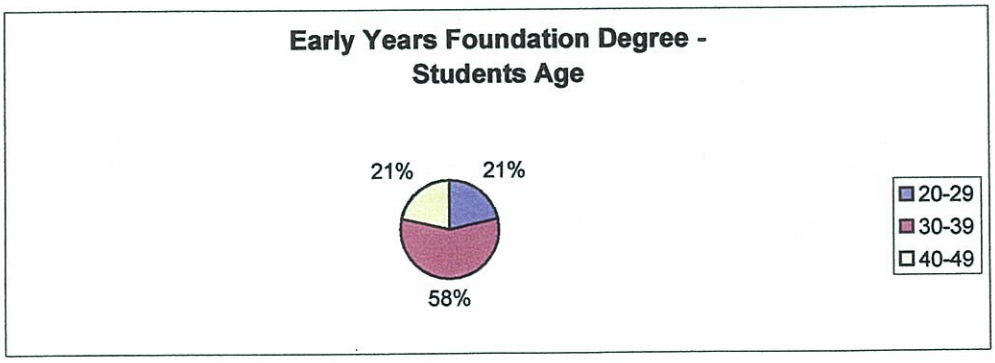
". . . Our Learnwise programme is something we want to rely more on in the future but we're finding that difficult to get up and running because we haven't been given development time and our time to put it on. "

". . . We're going to try and use Learnwise to avoid having (students) come to college for four hours on a Monday and so that we could maybe run teaching sessions through Learnwise or get on a chat room or post things up that they can discuss because they seem to be quite good at sharing information amongst themselves and talking to each other . . .we're hoping to create like study groups where they can actually, through Learnwise, communicate with each other in a chat room . . . "

Regarding student training, one person considered that academic staff only are responsible for training students in the use of electronic information services, however the person also widened this responsibility to include college library and university library staff as well as academic staff. With students, both claimed to always refer to and encourage the use of certain electronic information services, and to always raise awareness of how to evaluate electronic information services.

5.2 Foundation Degree Early Years Students

14 students answered the questionnaire. Over half were aged 30-39. Equal proportions were aged 20-29 and 40-49. All who answered the question were in their first year of study. All of the students were studying part-time.



The focus group discussion shed some light on the students' prior experiences of using computers, at work, at home, at college. For example, in one focus group, five out of the six students in the group had a home computer with an Internet connection. The sixth student used her mother's computer. A few of the group had used a computer at work, for example, for "*Bob the Builder and things and CBBC - you can download all of the pictures*", or at home with their children. Most of the group said they had little or no prior experience in using computers for studying. It was felt that college staff had made the assumption that all of the

students on the course would have access to an Internet enabled computer at home and this was confirmed during the interviews with academic staff:

". . . it wasn't compulsory but at interview we asked the students if they had access to a computer at home or work or internet access as well and they all have it." Furthermore one member of staff commented *"It's kind of just expected that now when they come to college that they're computer literate really."* In addition academic staff confirmed that in the near future all of the students on the course *". . . will have laptops provided by SureStart."*

All of the students were part-time students and working at home was essential because they had other commitments such as full-time work and family life. The students were unlikely to come into college just to use a computer because of the time and distance to travel, and the need for many to arrange childcare. This resulted in some of them having to work at home without support. During the focus group one student spoke about wanting to rely on the internet to save time, in accessing journals for example, but not having the skills to do so. Others commented about feeling that their time is sometimes wasted at college when computers don't work and classes are cancelled.

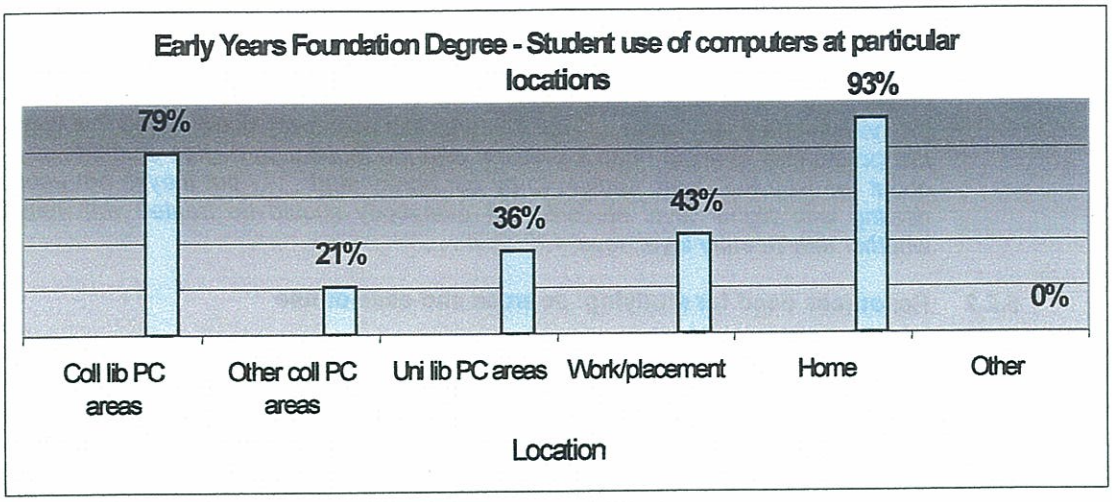
Despite the problems of working at home some "*felt happier at home*" where they had the support of other family members – "*my husband or my son show me how to get on the internet and it is one-to-one and . . .they can keep going over and over it*" - and the time and privacy to work at their own pace: "*not in front of anybody else so you don't feel a fool.*" And those that were confident had found that they could save time if they could work at home:

> "*I think that using computers is excellent, it's a good source of information, if you can do it right. . . I was off last week 'cos I wasn't well but she told me what I needed to look for so I went straight into the internet – I didn't go to a library or anything, just straight onto the internet.*"

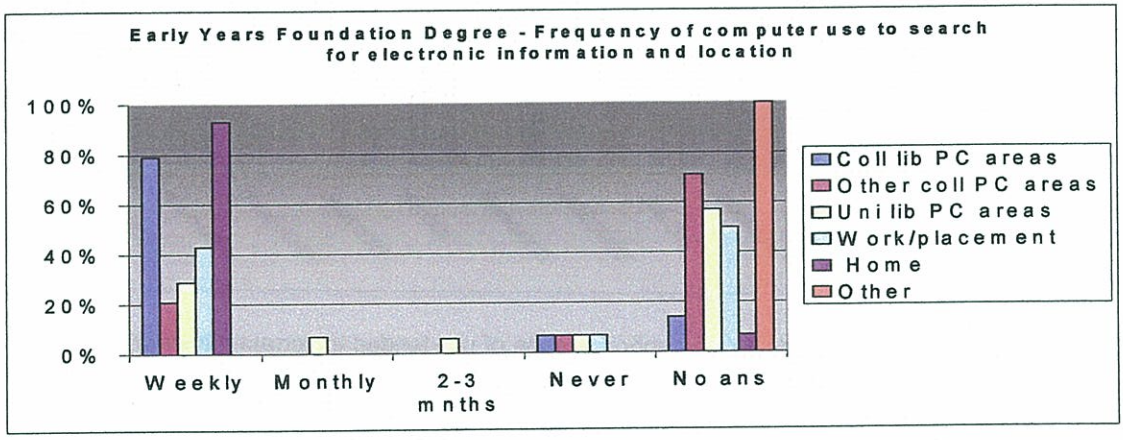
It became evident during the focus group discussion that the students firmly believed that academic staff were encouraging them to use electronic services. However the students themselves – certainly those at the focus group - were not so keen on either the electronic resources nor the emphasis on electronic services within the course. One student commented "*They are trying to encourage us to go with the future, to use IT, but to me, if you can use books easier ... which is what most of us are used to ... I would rather use books.* " Another added "*I think we have become too reliant on computers, because for the first four weeks of this course all we have done is IT and it is so boring ... we came on this course to do child development.*" There was a danger the course was not meeting expectations: "*I came on an Early Years degree to learn about children ... not learn about computers.*"

5.2.1 Use of electronic information sources: location and frequency

All of the students, except two who did not answer the question, claimed to use a computer to find electronic information. The most often mentioned location for computer use, accounting for over 90% of the sample, was at home. College library computer areas were voted by 11 students, accounting for almost 80% of the sample.



As for frequency of use, all except one student were using a computer at home and all except three students were using a computer in the college library, on a weekly basis. Almost half of the sample used a computer at work, and almost one-third of the sample were using a computer at the university library.



The focus group revealed how the students had "*encountered lots of problems since we started*" with electronic access, mainly to do with password recognition at the college, both during training sessions at the college and at other times when they had tried to log on to the college's computers. The students in the focus group suggested that this could be linked to the college's upgrade to Windows XP. The focus group discussion also revealed that another source of password problems were the Athens passwords generated by the university. There were complaints about the printers at the college, that there were too few and they were often not working. It became apparent during the focus group that IT support was available but not used. Such problems were also mentioned by academic staff during their interviews:

> *"(Computer access is) quite problematic, it's not something you can rely on happening. Students often come back and say I can't get on a computer or it's not working or the printer's not working . . ."*

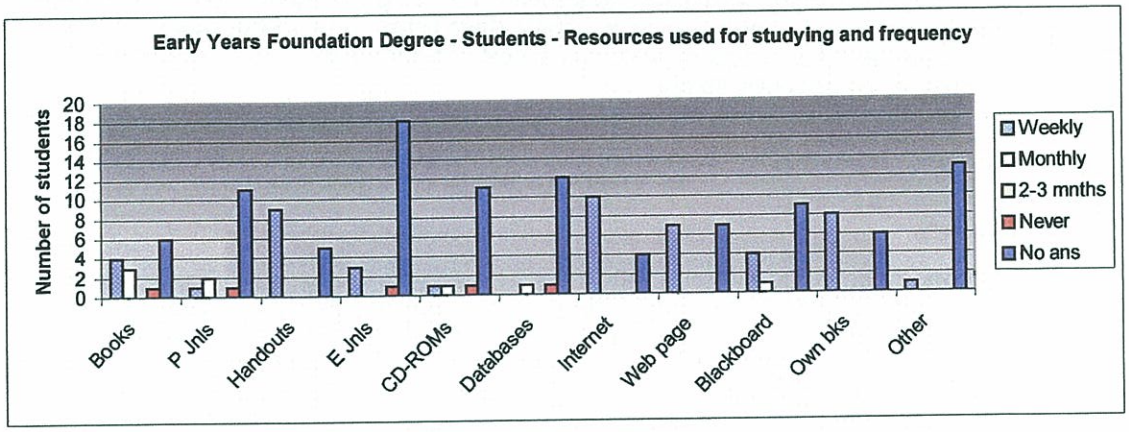
During the focus group students complained that library staff were not helpful and that there were "*no resources*" for them to use: "*The whole point, for me, is to be able to use the internet to save me having to trail to a library at Northumbria, because the library here doesn't have any books really.*" Overall they wanted "*better resources … a better selection of books.*"

Regarding students' low opinions of the helpfulness of library staff, these comments made by one of the academic staff are enlightening:

> *"Our library staff are very used to... the library being full of lower level students, maybe level 1 and level 2 where they've got behaviour and discipline problems and they've had to be very stern . . . but it seems like everybody gets treated that way. . . just on Monday evening I had a problem with the foundation degree students saying about the way they were spoken to by our library staff . . . but they're not used to dealing with higher level students but everybody should be treated with respect whether they're entry level, level 1, 2, 3, 4 . . . "*

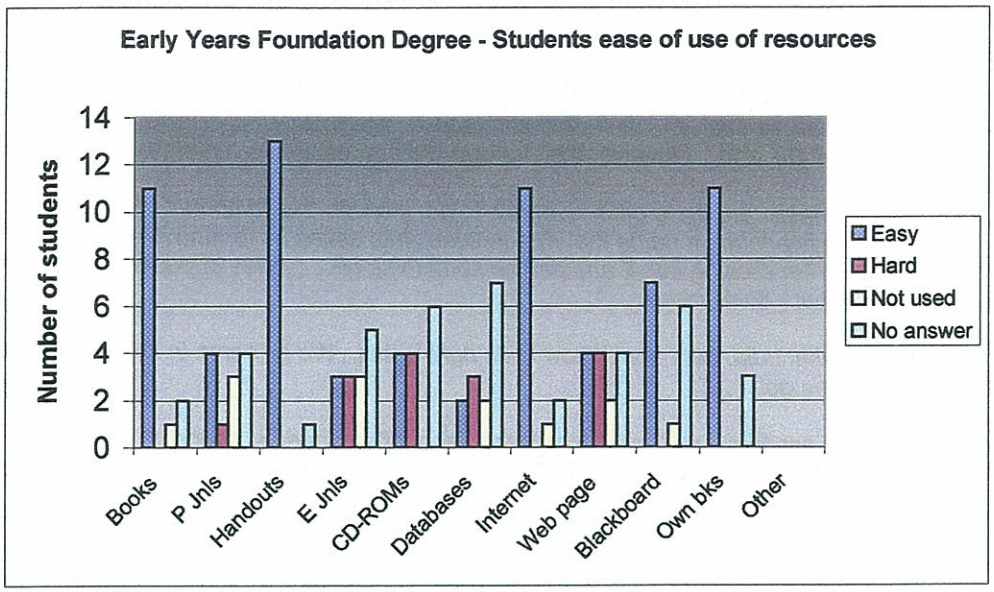
5.2.2 Resources used for studying: sources and ease of use

The most popular source was the internet, used weekly by 10 students (over 70% of the sample), closely followed by handouts (9 students) and own books (8 students, or over half of the sample.) College web pages were used weekly by half of the sample. If we add in the monthly use figures, the order of the top three sources does not change however library books gain equal fourth placing with college web pages. There are few responses for 'never use' however there were large numbers of 'no answer' given to this question, particularly for databases, electronic and printed journals, and CDROMs.



Not surprisingly, students' perception of ease of use tended to correlate to what they used most often. All except one student indicated that handouts were the easiest to use resources. 11 students, almost 80% rated their own books, library books and the internet as easy to use. Small numbers of students, between 1 and 4, found a range of sources hard to use and these

included databases, college web pages, CD-ROMs, electronic journals and printed journals.



The perception from library staff was that, overall, the skill levels of foundation degree students were low for using all resources including books, printed and electronic journals, CD-ROMs, databases, the internet, and evaluating information.

Those students attending the group discussion told how they struggled with basic resources such as the library catalogue and services such as email new resources to many of the group. The students were confused in having two email address, one for the college and one for the university, and had experienced problems getting access to their email. Overall, they had yet to be convinced of its convenience:

"*It's, like, when they were talking about emails last week, I just said to (the lecturer), can you not just ring me? – don't email me*!"

5.2.3 Favourite electronic information sources and evaluating information

From the questionnaire data, 10 students identified a favourite source of electronic information and all gave an Internet search engine with 6 students specifically referring to Google. Search engines were liked because they were easy to use, but disliked because they were time-consuming to use.

Nine positive comments or 'likes' were listed on the questionnaires regarding search engines and five of these focussed on it being easy or straightforward to use. The eight negative comments or 'dislikes' mostly concentrated on the time required to find a relevant website or to sift the information. Clearly, using search engines generates a number of dilemmas where advantages are balanced by disadvantages. For example, one student commented that Google was a "*good source of information and time saving*" but *"sometimes the information is totally irrelevant*."

Not surprisingly then during the focus group, when asked about the sorts of electronic information resources they used for their college work, most of the students in the group mentioned the Internet or a specific search engine. However search strategies were extremely basic. One student commented "*I don't really know enough about the internet at the moment - when I go on to it I just type in on the screen that comes up - I would love to use Google but I'm not too confident*" and two others agreed that they were "*the same*". When asked to describe a typical search one student said:

"*I just put the names in. . . I just went on, when you actually get the internet up …and where it says 'search', I did 'educationalist'. . . I put in 'early years theorists' and clicked in another bit and put 'Piaget' in or whoever I want.*"

Three strategies were offered for evaluating electronic information during the group discussion: "*Just sift through it*", "*Just read and read it*", and looking for "*Dates and books, reference books at the end.*" However the students did not really have confidence in their evaluative skills:

"*You just think 'are there other avenues to go into with the computer?' because all I am doing is printing a name that (the lecturer) has asked us for and it's coming down and them I'm clicking into it and getting something off. . . piles of paper. I know it's relevant but I don't know . . .* "

"*That's what I did, but I don't know if it's right or not. We all come in and we compare what we've got. . . .*"

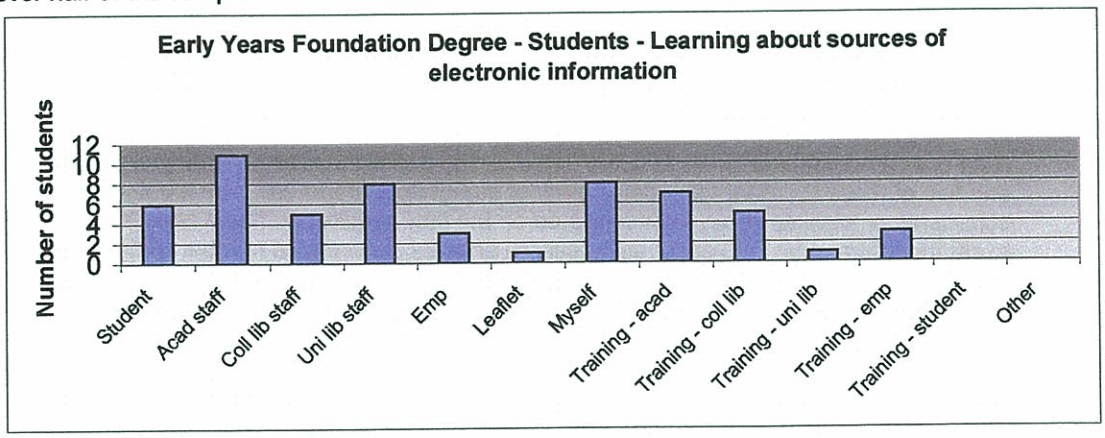
Both members of academic staff were concerned about the students' apparent reliance on Internet sources, often to the detriment of their use of print sources:

". . . there's still nothing quite like taking the time out to actually go into the building, it's still very very important. I think it's limited what you can get online, it's useful, but you still have to back it up by physically going (to the library) and having a look through stuff . . . when you're sitting at home trying to get things online sometimes you get them and sometimes you don't and it can be a little bit frustrating. . I need to encourage them and do some sessions there (in the library) to build up their own confidence of actually knowing where to go to get the right books, how to get a book from the shelf, look through it and decide or as you say evaluate it, is this going to be relevant to what I need."

"I think they tend to go for the Internet first because when they use books they don't read them, they look for bits, and I think they can narrow the search they're looking for using a search engine much more effectively than leafing through a book."

5.2.4 Learning about sources of electronic information and training

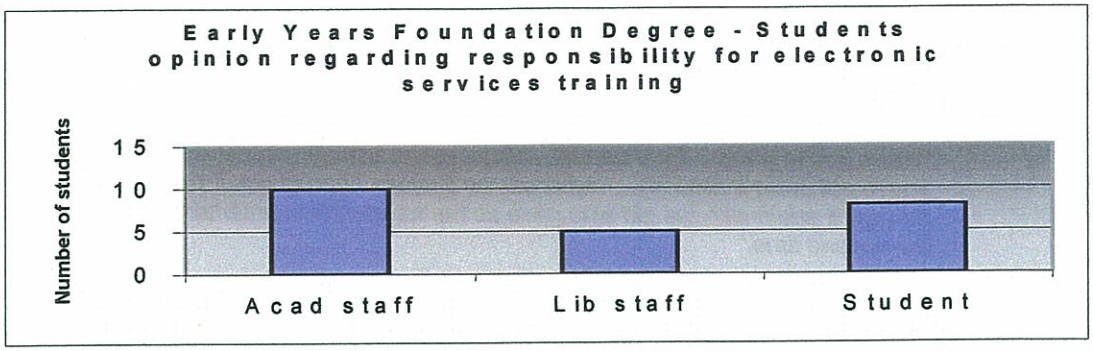
In practice, academic staff are the main source of information, mentioned by 11 students, almost 80% of the sample. 'Myself' and 'university library staff' accounted equally for well over half of the sample.



During the interviews the Early Years academic staff also thought that students should be finding out about electronic information sources "*through being told by the individual lecturers.*"

From the questionnaire data regarding training, one-half of the sample-mentioned training received from academic staff. Training sessions by college library staff were mentioned by 5

students, just over a third of the sample. The majority of the sample, 10 responses, thought that academic staff should be responsible for training students how to use electronic sources of information, followed by eight responses where students thought that the student should be responsible. Only five responses placed the responsibility with library staff! Library staff themselves felt that all groups, including academic staff, university and college library staff and the students themselves, are responsible for training students in the use of electronic information services.



During the focus group discussion it became apparent as to why the students were allocating the responsibility for training in this way. The academic staff seemed to be those who were most frequently involved in training, even if it was not perceived as being effective. The students claimed to have received training "*every week*" from their tutors, but it was described as "*itty bitty*" and was not seen as "*formal training*": "*The only thing we've had as training is to do with how to access the sites, the university site, or the college's site*".

A number of specific problems were mentioned that had occurred during the training sessions, and, worryingly, at the time of the focus group discussions, these problems remained unresolved:

- Passwords were not accepted
- Printers did not work
- Poor support from library staff during a training session
- Wasting time at college because the "*computers didn't work*" or "*crashed*" when the group was timetabled to use them. One student complained: *"(Staff) are saying you've got two hours of IT, but it has actually spanned over four, and in all that four hours you probably get 45 minutes.*"

Outside of the college, the whole course group had received a two-hour training session from university IT and library staff. Training at the university was praised for being well-presented – "*she did everything on the big board*" - and well-supported with printed information, but also criticised for being "*quick*" (referring to the demonstration of electronic journals) and pitched at too high a level: "*I was thinking 'what the hell is an electronic journal?*'" (Information Skills session) and "*it could have been in Russian ... it went right over my head. . .*" (IT session)

The outstanding problem was that the students claimed that they were subsequently unable to access university resources off-campus using their Athens passwords:

"*It was very well organised and it did look great but. . . when we got back, none of it has worked.*"

This problem was not followed up with the college or the university by either the students or the academic staff. For example, having failed to gain access to both the college and university library sites one student simply resorted to using a search engine:

"*I tried for the library site here and for the university site but I couldn't get on so in the end I asked Jeeves.*"

Another asked her husband: "*I even got my husband to try because I am to computing what Saddam Hussein is to world peace – I am useless at it – so I got my husband to do it, but even he couldn't get in.*" When prompted the students explained why they were unwilling or unable to use the university library's help line: one commented "*There is a help line but I don't know enough . . . if I 'phoned the help line and they said do a, b and c, I don't know enough to be able to do that*"; another blamed a practical problem: "*I can't use the internet and the 'phone.*"

One student who had returned to the partner university site to use the resources there commented on the difference between sitting through a demonstration and using the resources with purpose:

> "*When you're doing it for a tutorial, unless you're actually accessing information, you're not using it properly. . . whereas on Sunday I had to use it properly so I went through it again with the girl who gave us the tutorial and I understood it much better the second time.*"

Other comments made by the focus group also indicated that they would prefer demonstrations relating to both IT and information skills to be linked to an assignment or followed-up with a hands-on session. The focus group summed up their needs as "*basic training*" accompanied by "*idiot proof*" handouts so that they could "*try it in the privacy of (their) own home.*" The students had received no handouts from the college library, however they had received handouts from the university library. But even though one of the group claimed to have "*files full of bits of paper*" she still didn't find it useful: "*They give you your own reference number, your own password, your own this and that, and you do it step by step and you still can't get on.*" There is a dilemma in that students want handouts but apparently do not find them useful in practice.

During the focus group it became apparent that all of the students in the group discussion had 'returned to education', however some had had more ICT experience than others. Generally, there was a feeling that "*. . . we all should have been refreshed so that we are all that the same level*" and the group was clear about what they felt they needed in terms of training:

> "*They haven't gone through the basics . . . they haven't actually sat us down and said this is how you get on the internet when you turn on the computer*" and "*We need basic computer training . . . we need to know how to use it and how to access it, not all these other high-falluting things they are going into. . .*"

At the time of the group discussion some of the students were still struggling with basic procedures - "*I had to ask the girl last week who was sitting next to me how to switch the computer on*" - and were relying on each other for support – "*I made sure I sat beside her, as she's quite good with computers and I copied*" - even though the strategy was not always reliable – "*She told me how to get on the library site . . . and I did it exactly as she told me but I couldn't get on.*"

During the academic staff interviews it was evident that they had some understanding of the students' experiences in using library and IT resources/facilities and one commented:

> *"They feel out of place because they're a bit older and it's all new. They've said how they feel a little uncomfortable there but they'd feel better if we were along there to show them, it's just a reinforcement of what they've already been told and they maybe feel a bit nervous about going back in. I've had one or two who have gone and done research there but it actually tends to be the younger people. It's the older ones who feel a little intimidated and still need that extra support."*

6 FINDINGS FROM FIELDWORK: HEFC: ENGLISH

Key findings from questionnaires: HEFC English Students

- Almost the entire sample claimed to use a computer to find electronic information.
- Three-quarters of the sample were searching for electronic information on a computer at home and on a weekly basis.
- The sources of information to help with studying that were used regularly and by the majority of students were handouts, the Internet, library books and own books. The majority of the sample also rated these four sources as easy to use.
- Databases, electronic journals and printed journals were least likely to be used by the majority of students.
- In terms of ease of use, equal numbers of students found databases easy and hard to use.
- In practice, the main sources of information/training about electronic sources of information were academic staff and the students themselves, either working on their own or with a colleague. Indeed, the majority of the sample thought that they themselves were responsible for their training electronic sources of information.
- For most of the sample the favourite source of electronic information was the Internet, however using it generated a number of dilemmas.

6.1 English Academic Staff

One member of staff was interviewed in connection with this course. She searches for information electronically; every week using shared desktop PC in office, and every month at home. Commenting on the practicalities of sharing two personal computers between four members of staff, she said:

> *". . . we don't have sole access but we do have a couple of computers in our staffroom plus in the teaching rooms . . . There are laptops that you can use, you can book those . . . It's not bad (access) but I think now that we've got more people who are distance learning tutors we probably could do with another computer because all three of the full time staff are delivering courses by distance learning."*

Another problem identified during the interview was that *". . . the system is fairly slow or some of the computers are quite slow . . . I don't think we have the newest computers in our staff room. We tend to get some of the older ones."* As for electronic access within the college generally she commented *". . . very good in the past but I think now we've got XP we've had quite a few problems."* Also that there has been problems with remote access.

6.1.1 Use of electronic information services

The questionnaire data showed that this tutor uses own books, the internet, and web pages for course on college intranet on a weekly basis, and finds them easy to use. She rarely uses library books and CD-ROMs, but finds library books easy to use. She never uses printed journals or databases and hasn't used electronic journals.

She regularly uses the university's study skills site describing it as "*Easy to navigate, clear and helpful, accessible to students.*" During the interview she gave further examples of her Internet use and some of the problems she had experienced:

> *"Research for information related to the subjects I teach . . . I might try Yahoo or Alta Vista, I might go to Google or Ask Jeeves. We tend to use those and see what information comes up. Or some sites that have been recommended. There's quite a few at Northumbria University as well, I've got some quite good study skills sites."*

"I tend to go to sites I know. Sometimes you can't access them, at times they're not available or they move to a different address so that can be a bit annoying when you've got a list of useful websites and then they're not accessible again."

She uses electronic information services to prepare for lectures, research/gather information, communicate with students/staff, publishing/disseminating research and also for leisure. She learns about sources of electronic information by recommendations from academic colleagues, students, library colleagues and own research. She also uses a virtual learning environment (Learnwise) commenting:

"I haven't really used it an awful lot. I've been on about three training courses but the students have only just been issued with their passwords so I think it's something we'll just use a little bit this year and I'll have to try and use it more next year."

6.1.2 Learning about electronic information services and training

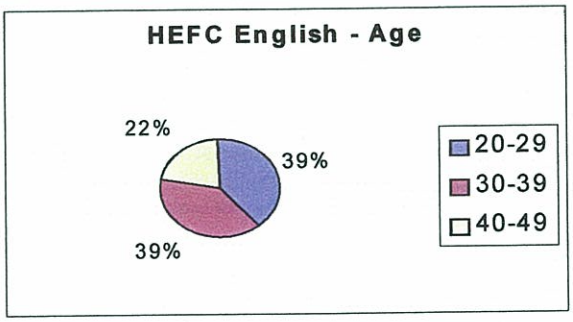
The tutor had participated in training provided externally by the university. To her knowledge training is not provided from college library staff although she had received college training on Learnwise. She considers the responsibility for training students in the use of electronic information services is shared between academic staff, college library staff, employers and the students:

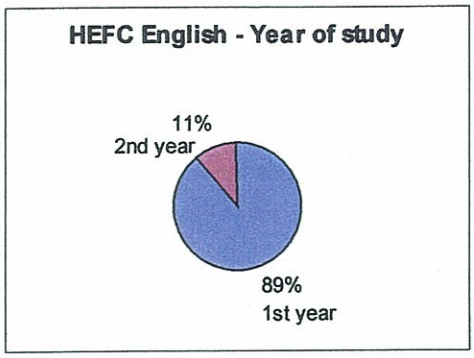
"I think everybody should take a part in training and sharing resources. I don't think it's one person's responsibility . . . I think it's better if it's three or four way communication."

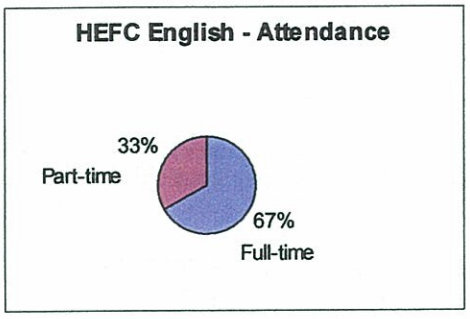
She also noted that the LRC had actually recommended Infotrac to her students.

6.2 HEFC English Students

18 students answered the questionnaire. 80% were aged 20-39 and 22% were 40+. The majority, almost 90%, were in their first year of study and the remainder were in their second year. Two-thirds of the sample were studying full-time, one-third part-time. All except two were studying other HEFC subjects at the college. Of the 9 students who participated in the focus group 6 had access to an Internet computer at home.





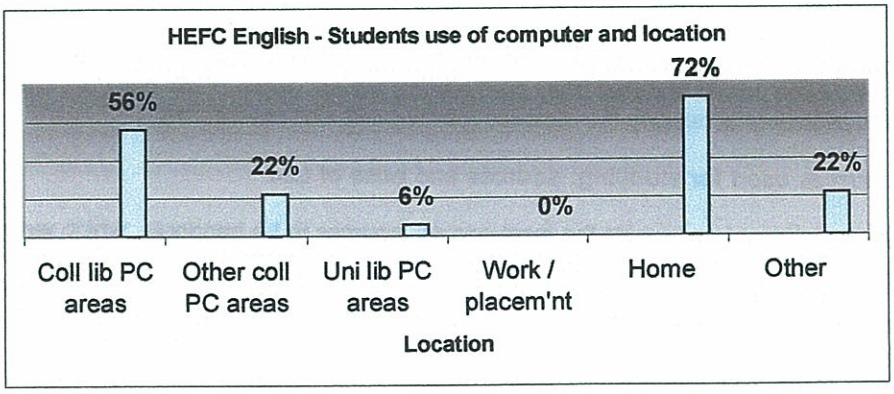


The tutor for the group noted:

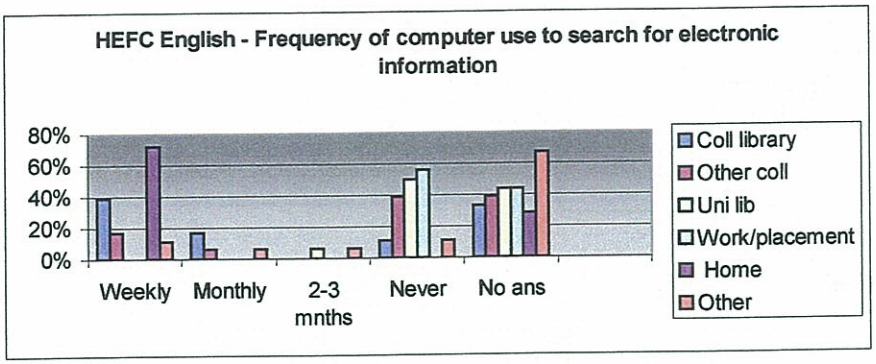
> *"They're all mature students . . . some of them haven't studied for quite a long time. Some of them have done recent IT qualifications, so it's a mixture . . . because they've been working in a group they've supported each other."*
>
> *". . . the assignments that they've been doing to date they haven't really needed to access that much information, it's been autobiographical and biographical information but when they have to do investigative reports for the second unit then we will need to have quite a good look at the sites. Once I know which topics they've selected I'll have a look and see what information I can find and suggest some sites."*

6.2.1 Use of electronic information sources: location and frequency

From the questionnaires, all except one student claimed to use a computer to find electronic information. The most often mentioned location for computer use, accounting for three-quarters of the sample, was at home. College library computer areas were mentioned by 10 students, accounting for over half of the sample.



As for frequency of use, from the questionnaires, three-quarters of the sample were using a computer at home and just over a third of the sample were using a computer in the college library on a weekly basis. Less than a fifth of the sample were using other college computer areas on a weekly basis.



During the focus group the students explained that they had been told to use the computers in the LRC. They were aware that others were available in the college but were unsure if they were allowed to use them.

The students described regular problems with queuing for printing, passwords, finding a vacant workstation, and working in a busy environment, as summarised by this student:

> *"It's normally pretty busy down there . . . It is hard to get on the computers . . .they've got computers down there that don't work, the mouses don't work, doesn't accept passwords, can't go on the internet, and then because people print things off, or try to print things off, then it backlogs the system and you sometimes don't get your things printed."*

Another student commented:

> *"I don't use the LRC very much because I always find it really noisy - but you'll see young kids on the search engines doing these stupid things and you get quite annoyed because you think I've got something to look up here and you're farting around on the computer."*

Because of the poor working environment in the college this student also worked from home:

> *"I don't use it because it is just too noisy down there so I do a lot of stuff at home because then you've got the peace and quiet of your own home. "*

Another was surprised that given the size of the college, it did not have a colour printer.

All except one student had experienced problems with their passwords. The group reported that they could either go and get a daily password from library staff or find a technician to resolve the problem.

The tutor was also aware of some of the problems students faced confirming that they complained about the printer and that *"they can't always access some of the college's sites . . . there's been problems accessing the distance learning site and the internet."*

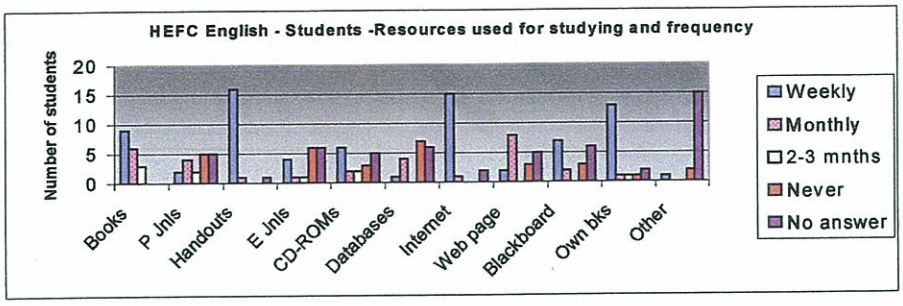
6.2.2 Resources used for studying: sources and ease of use

Data from the questionnaires reveals the most popular sources to be handouts, which were used weekly by 16 students (almost 90% of the sample), closely followed by the Internet (15 students) and own books (13 students, or just less than three-quarters of the sample.) Library books were used weekly by half of the sample. If we add in the monthly use figures, the order changes slightly as far as books are concerned with the top 4 sources being handouts, Internet, library books and own books. Looking across all the categories of use confirms the popularity of these four sources. All students made use of library books to some extent, and

all except three used their own books to some extent. All except one used handouts on a weekly or monthly basis and all except two used the Internet on a weekly or monthly basis.

The tutor commented on what the students would have been using recently: *"We tend to use the internet the most, we also use CD ROM's . . . I've actually produced those so the students use them and I've sort of inducted them."*

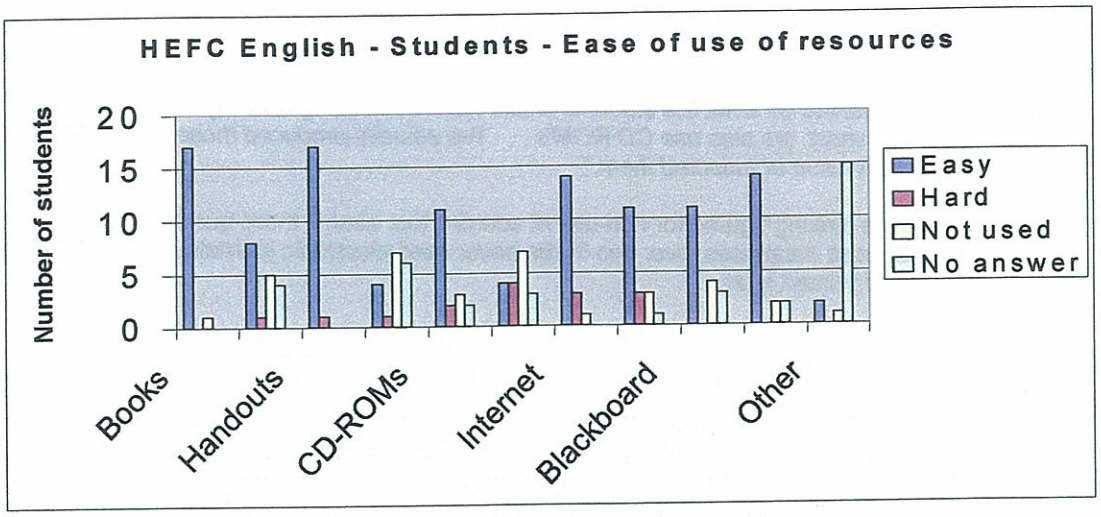
There are some striking figures for non-use of sources too: almost three-quarters of the sample never used databases, over two-thirds never used electronic journals, and over one-half never used printed journal.



The students had started their course in September and at by time of the focus group interview in November, reported that they had only been to the library maybe three - five times. One of the reasons given for low use was inadequate and inappropriate bookstock:

> *"They don't have much in that we need. Books and journals . . . They don't have anything that we need for our subject and that."*
>
> *"I think they've got quite a shortage of books."*
>
> *"They don't have any of the books that we actually need. At the start of the year we're given a booklist and the teachers tell us what would be really, really good books for us to get but they're £13 each and they haven't got any of them in the library . . I would have expected the library to at least have copies that you're not allowed to take away but if you get a spare 10 or 20 minutes you could go down and have a look through and say 'can I make a photocopy of this?'. But they haven't got them."*
>
> *"I went for a book on Monday and there was just nothing there. I think it was all just basically GCSE (level) . . . and there was nothing there of any importance other than, like, what I already had."*
>
> *". . . for instance, in Law we're supposed to use textbooks and there are specific textbooks we can't even take out of the classroom, so I would have thought that perhaps in the library downstairs they should be there, so if you've finished your class you can go downstairs and use them. But even in the library they're not there, and there's a limited number of books, and . . . it's just GCSE stuff which really isn't relevant to what we're doing . . . so it's just pointless."*

Not surprisingly, students' perception of ease of use tended to correlate to what they used most often. On the questionnaires all except one student indicated that library books and handouts were the joint easiest to use resources. Over three-quarters of the sample rated their own books and the Internet as easy to use. Interestingly, CD-ROMs, college WebPages and Blackboard were also rated as easy to use by 11 students, amounting to two-thirds of the sample, despite the frequency of their use varying from weekly to every 2-3 months. Small numbers of students, between 1 and 4, found a range of sources hard to use and these included databases, the Internet, college WebPages, CD-ROMs, electronic journals, printed journals and handouts.



The overall view of library staff was that such adult learner skill levels rated as medium-low for using books and printed journals, electronic journals, CD-ROMs and databases, the Internet and evaluating information. It was commented that such students tended to have a "*lack of confidence often overcome with practice and guidance*".

6.2.3 Favourite electronic information sources and evaluating information

From the questionnaires, 13 students gave a favourite source of electronic information and essentially all but one of these were 'the internet'. The exception was a distance-learning package accessed via the Internet.

Thirteen positive comments or 'likes' were listed regarding the Internet and half of these focussed on it being easy to use and providing plenty of information. Other points were that the Internet is quick to use and provides up-to-date information as compared to books. The ten negative comments or 'dislikes' mostly concentrated on the time taken to sort out the information and find the right site. It would appear that using the Internet generates a number of dilemmas where advantages are balanced by disadvantages. For example, one student commented "*it's easy to find what I want at a simple level (but) it's hard to find more complex information*", and another student "*there's plenty of information (but) it takes up my time, the task of sorting out the information.*"

More examples of the advantages and disadvantages of using the Internet as an electronic information sources were given by these students in the focus group discussion. For example, students liked using Internet search engines and websites because there was some degree of filtering, one site can lead you to another site, and they were time-saving:

> *"(It's) pretty fast and it normally gives you the main ones but it also omits certain sites so if you want to look for more they can just run search again and it will bring them all up instead."*
>
> *". . . for instance, if you're trying to go through a book and it's only got a little bit you still have to go all the way through a book. If you click on a website you can scroll down, if it hasn't got the bit you need then you bin it and go on to another website. So it is a lot faster."*
>
> *"I think it saves time in that you know you can spend 10 minutes on an internet website that you could spend hours in a library trying to find maybe a very slight part of that."*

However, the students had also experienced a number of problems in using electronic information sources, such as pages not being displayed, as one student described:

"Because it's expired or because of the nature of what we're doing. Because obviously we're in a college and there's the parental lock on the computers. Like I was doing about executions and the death penalty and there's a lot of sites that I couldn't get on because of obviously quite graphic pictures and things like that so I had to wait until I went home to use them."

"(It is) frustrating sometimes actually trying to find what it is that you want. You might put something into a search engine that doesn't give you enough so you've got to then try and think of another way of rewording it before you actually find what you want. "

"Sometimes (you get) too much though don't you, because there's that much on you don't know which bit you want to go for because there's that much stuff. . ."

"Or if it's running a bit slow because everybody's using it at the same time."

During the focus group interview the students gave several examples of how they used the Internet in connection with their studies:

"I was trying to find out about spiritualism and psychic mediums and it's not so easy just to put that in, so if you use Google or Ask Jeeves it gives you that little bit of a helping hand to start looking for what you want to look for."

"I prefer Ask Jeeves because I can ask him a full question, rather than just put one word in i.e. on our profiles in English I wanted to find out the job of a mortician and I just asked Jeeves 'what does a mortician do?'"

"We use the internet to get information from newspapers covering cases that are going through court at the moment. . . By putting in the name of the killer we wanted the information about and then 'newspaper articles'."

"I went and used the actual Guardian newspaper site and you can put the topic in there and it will bring up relevant topics, like I did about the death penalty . . . Another one I used is (the) Stanford University site . . . and that brings up all the journals and all the added bits that they've got in there . . . which is quite useful . . . from the Guardian one it had an extra bit to take me to Stanford and that's when I started going through all the electronic journals."

Favourite sites are likely to be those *"recommended by the teacher": "I know if I use ESGuru it's what the biology tutor expects us to be using so it's relevant to the exams."*

Regarding evaluation, some of the students described their strategies in the focus group:

"Maybe compare that to two or three different sites, or using the library site that you know, or the newspaper like The Guardian and that. You know that if it's come from a newspaper it's more likely to be true and that acts like a personal site."

Another student also described comparing results from different web sites to check data and also referred to the importance of *"find(ing) out who set the website up, whose is it, and where it's from, whether it's American or British. Or even if it's like a government one"* and continued *"so if you're looking for, say, like, medical things . . . if you go on one which is like an NHS website or the DoH website, you have a fairly good understanding that it's going to be quite closely monitored information which should be factual."* These strategies are quite impressive given the tutor's view that

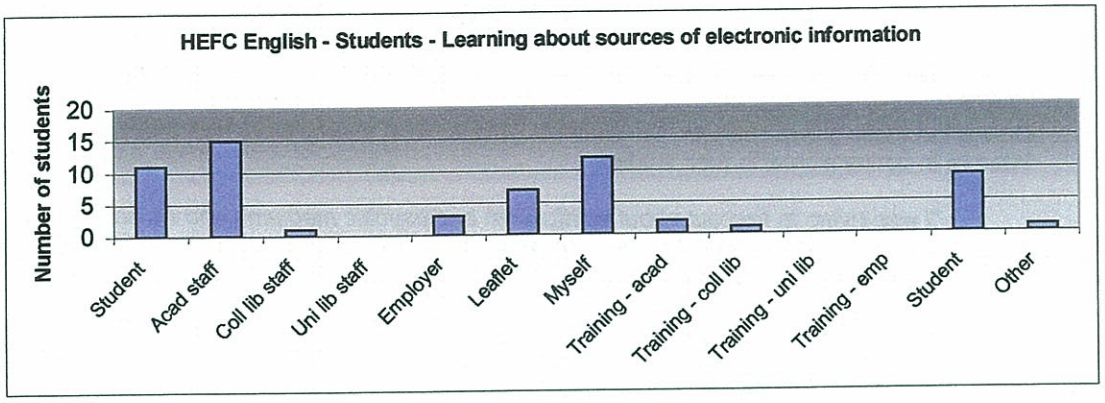
".. . (Evaluation's) probably something I perhaps ought to go into a little bit more about the verifying the accuracy and how up to date it is. We've only just touched on it." However other students simply trusted to luck or judgement. One said *"I just go by instinct sometimes . . . I just keep my fingers crossed and hope it is . . .I believe it if I believe it and if I don't, I don't."*

Another:

> *"I think it depends on the information they give you as well, if it's quite scant information you're not really going to do a lot with it I think. I think the more information that you actually get then like you say gut instinct tells you that it is going to be good information because there's a lot there."*

6.2.4 Learning about sources of electronic information and training

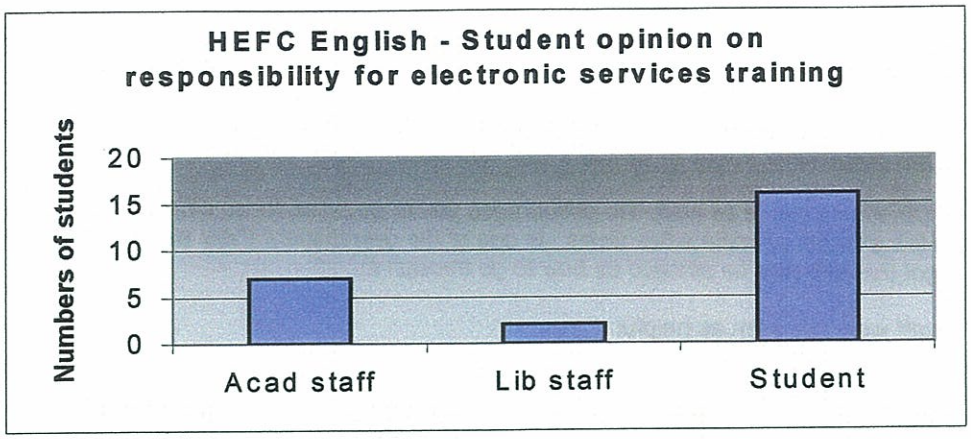
The questionnaire identified academic staff as the main source, as mentioned by 80% of the sample. 'Myself' accounted for two-thirds of the sample, and this was closely followed by 'another student'. Library leaflets/posters were noted by over one-third of the sample.



The English tutor thought that students should learn about new sources of electronic information *". . . by experimenting, researching and from each other, as well as sometimes from their tutors."*

During the focus group discussion the students were asked to describe how they found out about new sources of electronic information. One student reported that *"At the beginning of the year you're given leaflets and things with like a welcome package sort of thing . . ."* but not everyone in the group had received such a pack from the library. When prompted about its contents the student recalled "*It's just the services provided . . . There was a laminating service where you could get your documents laminated. There was a service where you can binders for any work that you were doing. . . "* The students made no mention of electronic information services.

The questionnaire asked students to identify who was responsible for training them in using electronic information resources. One-half of the sample mentioned 'training' in the form of being shown by another student. Training sessions by academic or library staff were only mentioned by one or two students. It is not surprising then that the majority of the sample, 16 students, thought that they were responsible for training themselves in using electronic information. Just over one-third of the sample thought that academic staff should be responsible for training students how to use electronic sources of information. Only two students placed the responsibility with library staff! However library staff felt that all groups – college and university library staff, academic staff and the students themselves are responsible for training students in the use of electronic information services.



During the focus group the students described a session organised by the tutor and delivered by library staff:

> *"We've only had one (session). 15 minutes. Two weeks ago . . . 10 or 12 of us all huddled round one computer, the screen, being shown how to do it and then being given the opportunity to have a play around . . ."*

The students recalled that they were shown how to access the Internet and the OPAC:

> *"How to log on. Literally from switching the computer on to the password, your user name and things like that right the way through to getting into the Intranet."*

> *"We were shown the Intranet and the college one and how to get information from the college and some of the newspaper things that they do from there. I think we were shown how to do an easy search on one of the search engines and I can't remember anything else."*

> *"I think we were shown that we could work on a different computer and we could have typed in something like . . . euthanasia and it would come up on the computer which books were in the library, which were out, most of them were out, and it tells you exactly where these books are, but there weren't any there anyway."*

The tutor's perception of this session was quite different:

> *" I asked one of the people in the LRC to talk to or to give the students some support and this year she actually organised the guided tour . . . they certainly found it useful. But I think they're quite experienced (at researching)."*

The students varied in how proficient they felt in using computers:

> *"I'm poor . . . Definitely mediocre."*
> *"I feel quite confident. I know what I'm doing as long as I Ask Jeeves."*
> *"I just watch (her), just watching everybody, just watching people and finding out how they do things and copy."*

However they all agreed that they had had not had enough training and would like more basic training. They all wished they had better skills. One asked for *"Any computer course that's doing basics for idiots."*

This is in direct contrast to the tutor's perception: *". . . they all seem fairly competent. . . I gave them some guidelines on Internet research but I don't actually think they needed those."* Although it was later suggested that: *". . . they'd probably like more training and support"*

The focus group discussion also revealed that all of the students felt that they could approach their teaching staff for help in using electronic sources of information, but not the library staff.

> *(The tutor) is very good. I think (the tutor) is quite a mine of information and she will give you a lot of things to look at it with reference to each assignment . . .*"

> *"(Another tutor) is as well. He encourages you to go on all these different websites . . He's showed us quite a few times. In one of the newspapers there was a disk and he got this disk and he showed us how to go through it. . . "*

Library staff were not seen as helpful:

> *"I don't feel you get the help you need when you're down there, I really don't. . . They're not very friendly like are they? . . .I would have thought they'd have been better with us being mature students but they don't seem to be any better really."*

The students in the focus group all agreed that they relied on each other for help and support:

> *"The people in the class help you as well. Say, if I was working on the computer and I was having problems, somebody who knew a little bit more than me would come over and help me and say 'if you do it this way you'll find it easier'."*

All of the students in the group relied on their local public libraries and several reported good experiences. One student noted *"The local library runs basic (computer) courses"* and described staff as *"really helpful."* Another student described obtaining books from her local library *"because I couldn't get the books here so I went into the (local public) library and they ordered them and I think it cost me 80p and one of the books was brand new . . ."* and another agreed "*As she said, if you go into the local library if they haven't got it they'll get it in for you . . .*"

7. FINDINGS FROM FIELDWORK: MODERN APPRENTICESHIP: CATERING

7.1 Catering Academic Staff

One member of staff was interviewed in connection with this course. This tutor searches for information electronically, every week using shared desktop PC in office and every week at home, every 2-3 months in college library PC areas, and never in other college PC areas. Regarding sharing a computer he commented "*You can usually access it most of the time but you can't guarantee ... There's 7 of us in here and we've got 5 PCs.*"

7.1.1 Use of electronic information services

5. This tutor uses own books, electronic journals and the internet on a weekly basis, and finds them easy to use
6. This tutor uses printed journals and web pages for course on college intranet on a monthly basis and finds them easy to use
7. This tutor uses library books, CD-ROMs and databases every 2-3 months and finds them easy to use

The tutor was aware of the virtual learning environment (Learnwise) but commented in the interview that s/he did not use it. However s/he did regularly use the college's intranet. S/he liked the *"ease of use and not having to telephone colleagues*" but disliked the fact that "*computers are not always available*". In the interview the tutor described the advantages and disadvantages in more detail:

> *"It's on-line, I can download, I can send it to other people . . . Booklets, handouts, things like that . . . you can easy update them and change them . . . problems arise*

when you depend upon it too much and the system is down . . . so we tend to produce the work on there and then have it printed off so we still go back to the pen and the paper really."

". . . it's fine when it's running but if you look at the computers we've got have you ever seen anything as old? Yes we've got computers but they're not state of the art, they're pretty basic what we've got."

This tutor uses electronic information services to prepare for lectures, research/gather information, communicate with students/staff and also for leisure. Regarding using electronic information sources in teaching he commented:

"I'm not here to teach IT, it's just another teaching tool to me . . .there's quite a few of us got ECDL's and things like that so we are fairly proficient in IT and we're aware of all the uses of it . . . the problem is I can use it but I'd rather the students were able to use it and that's just not the case."

With students, the tutor sometimes refers to and encourages the use of certain EIS:

"If it wasn't there it wouldn't matter . . . You must remember that 50% or more of my teaching is actual practical craft in a kitchen. . . IT is just another teaching tool. Same as you vary your lessons, you don't use one strategy all the time so you can vary your lessons by introducing IT as something different for them . . . but we can't depend upon it . . . because we can't guarantee we've got access."

The tutor gave some examples of using EIS in teaching:

" . . . for the level 3s I mean it's very good that you can get on to the government sites - the health and safety . . . you know, find the latest information, the meat marketing board . . . to find out about BSE [sic] things like that . . ."

The tutor would show websites to the students and commented:

"(I) usually stick with tried and tested, BBC, things like that, meat marketing board - usually what you get off them is pretty sort of accurate . . .I go to the sites where I know the facts will be correct . . . Other than that anybody can put information up."

The students themselves were not expected to evaluate information:

"I don't think they are at that level. I think for level 2 it's a fairly basic level, so what we use is tried and tested text books . . . we only ask for three books . . . they're not coming with any background knowledge, they've got no experience to be able to evaluate things . . . they haven't got benchmarks."

Overall s/he felt that EIS had had no impact on the course. Regarding use of EIS in teaching s/he commented:

"I (list) websites if it's relevant, government websites on health and safety things like that if they can access them, if not I'll do a print off for them. But it's just not making the assumption that everybody can access a computer."

7.1.2 Learning about electronic information services and training

8. This tutor learns about sources of electronic information by recommendations from academic colleagues and own research
9. This tutor has participated in external training: *"I completed an ECDL last year. I did it just for the qualification, most of us have that up here."* Believes that training from college library staff and partner university library staff is not provided and had not participated in any training this year.
10. This tutor considers that academic and college library staff only are responsible for training students in the use of electronic information services and IT Dept.

7.2 Modern Apprenticeship Catering Students

Two groups of students completed the questionnaire and participated in a follow-up discussion. The groups were based at different sites and, because the courses were delivered differently, received different levels of exposure to IT/electronic resources. The first group, based at the college's main site, consisted of 3 part-time first year students, one aged 16-19 and two aged 20-29. The tutor commented:

> *". . . the people I teach come from industry. The only ones who would come through and who are not working in industry are the modern apprentices and most of them have done IT at school so there's not many people who can't use a computer now. If they do we do key skills with the modern apprentices so they pick up IT as part of that . . ."*

The findings below are based on the questionnaires, interview and focus group discussion held with staff and students at the main college site. Data collection was very disappointing with this group of students as they only partially completed the questionnaires and were reluctant to participate during the group discussion. For this course, attendance in college is minimal due to the course structure and this contributed to the difficulties experienced.

7.2.1 Use of electronic information sources: location and frequency

None of the students used a computer to find electronic information. This was explained by the tutor:

> *"If kids want to e-mail me you know they can, they can e-mail me at work and I'll check it and e-mail it back to them, whatever. So it's there if they want it. What you find is that the people I teach will have been to work this morning . . . some of them might go back to work tonight . . . they work split shifts, they work every weekend, so the last thing in the world they think about is 'am I going to go and do some homework on my computer' . . . so we try to get through most of it in college and try not to set homework."*

> *"...we don't have (online learning) yet because it's a craft based course, so theory and practice have got to sort of marry up, you know."*

7.2.2 Resources used for studying: sources and ease of use

Two students indicated the sources of information they used to help with studying. Student A used handouts on a weekly basis and student B used own books on a weekly basis and also library books on a monthly basis.

Student A claimed to find most sources of information, except electronic journals and databases that s/he had not used, easy to use. Student B claimed to find books, handouts, CD-ROMs, internet, college intranet and own books easy to use.

The interview with the tutor revealed that the use of electronic information services did not feature strongly in the course:

> *"They don't need that at level 2. The only thing we might do is when we do health and safety . . . you can go on the government health and safety site and you can download things . . . But at level 2 we tend just to provide it for them and it'll have a website address on it so if they want to go and look it up further then they can."*

From the tutor's point of view, books and handouts were the preferred medium:

> *"I encourage them to find the information by whatever means they can . . . if they've got time to sit in the LRC and come up with something off the web that's fine, but . . . they've got to pass a factual exam so it's no good going off into somebody else's*

website then coming back with what they think. So I always have a reading list of books . . . that I know are good quality textbooks with the facts in, and if they can find other stuff to complement that then fine."

Use of electronic sources was very selective, for example, the Internet:

". . . there's a lot of information on the web . . . there's a lot of rubbish published there as well so we're quite sort of selective. We use the new MAFF government site. There's that much rubbish published about catering . . . I do learning packs for them and in the front of that there's always a list of reading materials so they can go to the library and collect the books... there's this big assumption that everybody has a computer at home, that's not true in an area like this."

Nor was use of electronic sources, such as electronic journals, particularly encouraged or expected:

"There's a one we've just joined called the Restauranter, which is a new magazine that's came online but to be quite honest it's having the students get access to it. If they're interested they can go down the LRC and access it, the same as they can for most sort of sites, but a lot of them don't have the time or the inclination to be quite honest."

Library staff considered modern apprenticeship students skill levels as medium to low for using the Internet and low for every other resource.

7.2.3 Favourite electronic information sources and evaluating information.

No one gave a favourite source of electronic information. No comments were made on evaluating information.

7.2.4 Learning about sources of electronic information and training

Only Student A described how s/he found out about sources of electronic information: recommendation from teaching staff, library leaflets/poster, finding out myself and a training session from teaching staff.

According to the tutor all students received an induction session:

". . . (tutors) will take them to the LRC and a member of the LRC will do the induction there. They've got the computers down there, they show them how to access things and how to look for things and how to check . . .it's just one (training session). Maybe just an hour at the most."

Students A and B both thought that teaching staff were responsible for training them to use electronic sources of information. Student B also thought it was the students' own responsibility. Library staff felt that they, plus academic staff, and the students themselves, were responsible for training students in the use of electronic information services.

8. COMMENTARY

The overall picture of the use of electronic information services at this college is a fragmented one. Even so, the student focus group discussions added substance to the basic findings derived from the questionnaires. When considered alongside the findings from the academic and library staff interviews this data revealed mismatches in perceptions, inconsistencies in experiences, and unresolved dilemmas in three areas, namely access, use of electronic information services, and training.

Regarding access, there were different perceptions between academic and library staff as to how the library should be used. Many students found that home use was necessary because of other commitments and dissatisfaction with the college's resources/study environment. Students experienced many problems in using electronic information services that remained

unresolved. These ranged from practical issues such as being able to access a PC when required, IT issues such as passwords and firewalls, and personal issues such as interactions with library staff.

The questionnaires and interviews revealed very different levels of use of electronic information services between individual members of academic staff. The few areas of chief, but not total, agreement were that their work had always improved as a result of using electronic information services, they always referred to and encouraged the use of certain electronic information services, they never used electronic information services more than print and they did not appreciate sharing a PC.

Whilst all staff claimed to use electronic services for a wide range of tasks, in practice much, if not all, of this use was at a basic level. The examples given of using electronic information services were almost wholly concerned with the Internet. Most examples of evaluation were simplistic. In teaching, the use of electronic information services was not embedded into the curriculum and in one case the use of such services was considered unnecessary. The examples of using electronic information services in teaching were very basic.

There was a mismatch between student and academic staff expectations regarding use of electronic information services. For students, use of electronic information services was virtually solely confined to the Internet. Despite being frequent users, albeit at a basic level, they were not efficient or effective users nor were they confident or enthusiastic users. Also, despite recognising the disadvantages of using the Internet, students did not appear to be considering using alternative electronic information services such as databases or electronic journals.

The experience of library training and awareness, both for academic staff and their students, was variable. The training that academic staff had received within the college had concentrated on practical IT matters and using the VLE, not using electronic information services. Some staff had participated in external training. All academic staff felt they had unmet training needs. Just like their students, academic staff relied on colleagues and 'word of mouth' for finding out about new services, not library staff. As far as academic staff were concerned there appeared to be no clear line of responsibility for training students in using electronic information services.
Academic and library staff had different perceptions regarding whether library staff were knowledgeable about the electronic information services they provided; whether there were good working relationships between academic and library staff, and regarding academic staff expertise at evaluating information.

Students themselves had no clear understanding of who was responsible for training them to use electronic information services. Students relied on academic staff and other students for learning/training about electronic information services. Library staff were not seen as helpful in this area. Whilst library staff rated student skill levels in using and evaluating electronic information services as medium to low, and this was borne out in the academic staff interviews and focus group discussions, there was no structured training in place to improve student skills.